















22  
Biological  
& Medical  
Serials

25  
THE

# AMERICAN JOURNAL OF OBSTETRICS

AND

DISEASES OF WOMEN AND CHILDREN

EDITED BY

PAUL F. MUNDÉ, M.D.,

*Professor of Gynecology at the New York Polyclinic and at Dartmouth College; Gynecologist to Mt. Sinai Hospital; Fellow of the Obstetrical Society of New York, and of the American, British and German Gynecological Societies; Corresponding Fellow of the Obstetrical Societies of Edinburgh and Philadelphia, and of the Gynecological Society of Boston.*

---

COLLABORATORS:

IN LONDON:  
ROBERT BARNES, M.D.

IN PARIS:  
PIERRE BUDIN, M.D.

IN BERLIN:  
AUGUST MARTIN, M.D.

---

VOLUME XXI.

1888.

---

New York:

WILLIAM WOOD & CO., PUBLISHERS,

56 & 58 LAFAYETTE PLACE.

67476  
6/11/06





# CONTRIBUTORS TO VOL. XXI.

---

ACKER, GEORGE N., Washington, D. C.  
ANDERSON, JEROME A., San Francisco, Cal.  
BANER, W. L., New York, N. Y.  
BECKWITH, F. E., New Haven, Conn.  
BIGELOW, HORATIO R.  
BOLDT, H. J., New York, N. Y.  
BROMWELL, J. R., Washington, D. C.  
BROTHERS, A., New York, N. Y.  
BUCKMASTER, A. H., Brooklyn, N. Y.  
BYFORD, HENRY T., Chicago, Ill.  
COLEMAN, JOHN S., Augusta, Ga.  
COOK, G. WYTHE, Washington, D. C.  
DAVIS, B. B., McCook, Neb.  
DOUGLAS, RICHARD, Nashville, Tenn.  
DUDLEY, A. PALMER, New York, N. Y.  
EASTMAN, JOSEPH, Indianapolis, Ind.  
FRY, HENRY D., Washington, D. C.  
GEHRUNG, EUGENE C., St. Louis, Mo.  
GOODELL, WILLIAM, Philadelphia, Pa.  
GRANDIN, EGBERT H., New York, N. Y.  
HAGAN, HUGH, New York, N. Y.  
HAGNER, CHARLES E., Washington, D. C.  
HANKS, HORACE T., New York, N. Y.  
HARDON, VIRGIL O., Atlanta, Ga.  
HARRIS, ROBERT T., Philadelphia, Pa.  
HARSHA, W. M., Decatur, Ill.  
HOMANS, JOHN, Boston, Mass.  
INGRAM, FRANK H., New York, N. Y.  
JACOBI, MARY PUTNAM, New York, N. Y.  
JAGGARD, W. W., Chicago, Ill.  
JONES, CHAS. N. DIXON, Brooklyn, N. Y.  
JONES, GEORGE E., Cincinnati, O.  
JONES, MARY A. DIXON, Brooklyn, N. Y.  
JOHNSON, JOSEPH TABER, Washington, D. C.  
JOHNSTON, GEORGE WOODRUFF, Washington, D. C.  
JOHNSTON, W. W., Washington, D. C.  
KING, A. F. A., Washington, D. C.  
LEE, CHARLES CARROLL, New York, N. Y.

- LONG, J. W., Asheville, N. C.  
 MACKAY, H. M., Woodstock, Ont.  
 MACKINNON, ANGUS, Guelph, Can.  
 McARDLE, THOMAS E., Washington, D. C.  
 McLEAN, MALCOLM, New York, N. Y.  
 McMURRAY, A. S., Frankfort, Ind.  
 McMURRAY, J. S., Frankfort, Ind.  
 MUNDÉ, PAUL F., New York, N. Y.  
 PICK, ALBERT, Boston, Mass.  
 POLK, W. M., New York, N. Y.  
 POST, SARAH E., New York, N. Y.  
 POTTER, WILLIAM WARREN, Buffalo, N. Y.  
 POWELL, C. H., St. Louis, Mo.  
 PRITCHARD, F., Boston, Mass.  
 SCHIEDT, PHILIP M., Philadelphia, Pa.  
 SCOTT, A. VICTORIA, Philadelphia, Pa.  
 SEYMOUR, WM. WOTKYNs, Troy, N. Y.  
 SMITH, A. LAPHORN, Montreal, Can.  
 SMITH, THOMAS C., Washington, D. C.  
 SPEAR, J. M., Cumberland, Md.  
 SUTTON, R. S., Pittsburgh, Pa.  
 SWIFT, THOMAS D., New York, N. Y.  
 TAIT, LAWSON, Birmingham, Eng.  
 THOMPSON, J. FORD, Washington, D. C.  
 TYLER, LACHLAN, Washington, D. C.  
 VEIT, J., Berlin, Germany.  
 WARREN, STANLEY P., Portland, Me.  
 WELLS, BROOKS H., New York, N. Y.  
 WERNER, MARIE B., Philadelphia, Pa.  
 WHITE, JOHN BLAKE, New York, N. Y.  
 WINTER, JOHN T., Washington, D. C.  
 ZINKE, GUSTAV, Cincinnati, O.  
 The OBSTETRICAL SOCIETY OF NEW YORK.  
 The OBSTETRICAL SOCIETY OF PHILADELPHIA.  
 The OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.  
 The GYNECOLOGICAL SOCIETY OF CHICAGO.  
 The OBSTETRICAL SOCIETY OF CINCINNATI.  
 The OBSTETRICAL SOCIETY OF LONDON.  
 The GERMAN GYNECOLOGICAL SOCIETY.  
 The GERMAN GYNECOLOGICAL ASSOCIATION.  
 The AMERICAN GYNECOLOGICAL SOCIETY.  
 The AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

# THE AMERICAN JOURNAL OF OBSTETRICS

AND  
DISEASES OF WOMEN AND CHILDREN.

---

VOL. XXI.] JANUARY, 1888. [No. 1.

---

## ORIGINAL COMMUNICATIONS.

---

### INTRA-LIGAMENTARY OVARIAN CYSTS.

---

BY

WILLIAM GOODELL, M.D.,

Philadelphia.

---

THE three varieties of abdominal cyst most commonly met with are (*a*) The true ovarian cyst. (*b*) The common parovarian, or broad-ligament, cyst. (*c*) The intra-ligamentary cyst.

The first one is typically multilocular, with abundant glandular outgrowths from the inner walls of the daughter-cysts. It always starts from the stroma of the parenchyma, grows into the peritoneal cavity, and has a pedicle. It is the only one of these cysts which does not come from fetal relics, and its origin still remains unsolved. While the majority of pathologists ascribe it to morbid changes in the ovisacs, a strong minority trace it to vascular changes—viz., to thickened, dilated, and obstructed arterioles.

The common variety of so-called parovarian cyst is typically unilocular, usually unadherent, and thin-walled. It does not bear intracystic papillary growths, but it contains a clear limpid fluid. It is absolutely extra-ovarian; for the corresponding ovary often hangs pendent apart from the cyst; or else it is found flattened and plastered upon the cyst-wall, but wholly distinct from it. The lining membrane of this cyst being

identical with that of the tubes of the parovarium or Wolffian body its origin is referred by pathologists to this fetal relic. But, as intraligamentary cysts also are supposed to start from the same fetal tubules, pathologists are driven to account for the unilocular and unadherent condition of the parovarian cyst by attributing it to "detached loops of the tubes," or especially to that little cyst invariably found at the outer end of the horizontal tube of the parovarium and lined with a structure resembling endothelium. Although often without a true stalk and more or less sessile, this cyst grows away from the broad ligament, and the operation for its removal is generally a very easy one.

The third variety of cyst is called the intra-ligamentary, sessile, or encapsulated cyst. From its site between the folds of the broad ligament, from its papillary ingrowths and its quasis malignant nature, and also from the difficulties attending its extirpation, it deserves special description, and needs a special treatment. For these reasons, it will claim our attention in this paper.

There are two kinds of cysts encapsulated by the broad ligament. The one is a unilocular papillomatous cyst; the other a multilocular papillomatous cyst. The former contains in its single chamber a clear limpid fluid and also cauliflower or papillary growths. It is probably a cystic degeneration of one of the vertical and embedded tubules of the parovarium—which are the rudimentary sexual remnants of the Wolffian body. The connective tissue, binding it to the broad ligament is looser and less vascular than in the second variety. This makes it more easily separated than its multilocular fellow, although, as it grows in the broad ligament from the very start, it is usually more encapsulated. Nor is it so frequently met with.

The multilocular intraligamentary cyst has but few daughter cysts, each one distended by a clear limpid fluid and containing exuberant, firm, papillomatous growths. Its proneness to fuse itself to neighboring organs and its firm and vascular union with its capsule of broad ligament make its removal far more difficult than that of the unilocular variety.

In spite of careful investigation the question of its origin still remains a vexed one. Yet the general consent is, that, since it contains papillary ingrowths, which is the essential



feature of fetal tubular relics, it must come from that source. Let me here say that the outgrowths often found on the surface of ovarian cysts, unless they are ingrowths which have penetrated the cyst-wall, are merely inflammatory products, like warts. They are not true papillomata, which are growths from the inner surface of the walls.

Malassez and de Sinéty are disposed to attribute the multilocular intraligamentary cyst to follicular degeneration of supplemental ovarian tissue or accessory ovaries, lying between the folds of the broad ligament,<sup>1</sup> of which Weigel found twenty-three examples in six hundred autopsies.<sup>2</sup> This opinion is plausible, by accounting not only for the multilocular character of this cyst and for its investment by broad ligament, but also for the average number of cases, which is proportional to that of cases of accessory ovaries. But it does not account for the presence of the papillomatous ingrowths, which are found only in fetal tubular relics.

According to Coblentz,<sup>3</sup> this is a true cyst of the broad ligament, and due to a development of the tubular fetal relics occupying that portion of the broad ligament which lies between the inner part of the tube above, the ovarian ligament below, the parovarium externally, and the womb internally. This portion of the broad ligament is called by Waldeyer the paroöphoron, and it corresponds to the organ of Giraldez or paradidymus in the testicle.<sup>4</sup> This theory of Coblentz's explains every peculiarity of this cyst, excepting that of its containing daughter-cysts; for broad ligament cysts are essentially unilocular.

On the other hand, Doran,<sup>5</sup> who has made a careful study of this matter, contends that these curious cysts come from morbid growth of stray fetal relics which exist in the hilum of the ovary. They are, therefore, not due to broad ligament cysts or to follicular degeneration of ovisacs in ectopic ovarian stroma. Doran's theory I am disposed to accept, as it covers every characteristic of these cysts—viz., the presence of papil-

<sup>1</sup> Bulletin de Société de la Chirurgie, June 22d, 1887; also Revue de Chirurgie, Aug. 13th, 1887.

American Journal of the Medical Sciences., Oct, 1886, p. 464.

London Medical Record, March, 1882, p. 81.

"American System of Gynecology," vol. I., p. 75.

"Tumors of the Ovary," etc., p. 51.

#### 4    GOODELL : *Intra-Ligamentary Ovarian Cysts.*

lomata and of daughter-cysts and the investment of broad ligament.

The healthy ovary occupies the apex of a ligamentous triangle, the base of which is continuous with the two folds of broad ligament, and the angles of which lie at the womb and the pelvic brim. At the junction of the ovary with this prolongation of broad ligament—the tubo-ovarian or infundibulo-pelvic ligament—is the hilum of the ovary. Here relics of the Wolffian body exist in abundance, and papillary growths springing from the *inner* wall are, according to Doran, “the essential feature of cysts derived from the vertical tubes of the par-ovarium and their prolongation into the tissue of the ovarian hilum.”<sup>1</sup> Further, he admits specimens of incipient disease of the hilum, which show papillary ingrowths and a tendency of the cysts to grow into the folds of its own ligament, rather than into the free abdominal cavity.

An ovary, then, is divided into two parts: The stroma of the parenchyma, containing ovisacs; and the tissue of the hilum, containing stray fetal relics. When a cyst starts from the ovisacs of the stroma it is multilocular, it contains succulent glandular material, and it grows away from its pedicle into the abdominal cavity. On the other hand, the cyst starting from the fetal relics—vertical tubes—of the hilum, is a multilocular, proliferous cyst, containing exuberant firm cauliflower papillomata, and growing away from the stroma, it burrows into its pedicle and parts its layers asunder. It is its mode of growth, and not the question of its origin, which concerns the surgeon.

Instead of developing free into the peritoneal cavity, as ordinary ovarian cysts, the intra-ligamentary tumor grows toward, into, and between the two folds of its own ligament—the tubo-ovarian—then buries itself between those of the broad ligament proper. It parts asunder these two serous folds more and more, the one from the other, and lifting their skirts burrows under the peritoneum beyond the strict limit of the broad ligament. Thus it strips off the peritoneal coat of the womb and comes into direct contact with that organ—naked cyst-tissue with naked uterine tissue—and the one is fused to the other by that mode of grafting technically called *inarching*. The vascular and structural fusion now subsisting between the

<sup>1</sup> “Tumors of the Ovary,” by Doran, p. 51.

two is as vital and as integral as that between the womb and its oviducts or its round ligaments. The relationship is one of continuity, not of contiguity, and in some cases it will be safer to extirpate the womb, together with the adherent sac, than to attempt to free it. The womb is also almost always displaced laterally and greatly elongated by the upward dragging. I have seen it over five inches long, and so high up that, had the woman been tapped at the usual site, the trocar would have pierced it.

Restrained by the pubic bones in its growth towards the front, the sac pushes its way under the peritoneal investment of the bladder, stripping it off. Fusing its naked surface to the flayed muscular coat of the bladder, it drags that viscus upward and elongates it vertically, even as high up as the umbilicus. So integral is the fusion that, unless a sound is introduced, one cannot tell where the bladder ends and where the sac begins; and so difficult their separation, that there is hardly an ovariologist who has not torn the bladder.

Next, the sac strips off from the lower abdominal wall the fold of peritoneum reflected from the bladder, and solders itself to the bare muscles. The abdominal incision then reaches the cyst without meeting with a layer of peritoneum. As the tumor develops upward, the anterior layer of the broad ligament, although greatly hypertrophied, cannot keep pace with the growth of the former and its thinned out and stretched out tissues yield to the pressure. The upper portion of the sac then bursts through its capsule and grows free into the abdominal cavity, becoming intra-peritoneal. But the lower portion of the sac stays covered by a pale-red, fibro-muscular coat, between the layers of which it lies buried. Here it is sub-peritoneal and, therefore, extra-peritoneal. The intra-peritoneal portion being often free, and also presenting the characteristic pearly hue of an unadherent cyst, is very likely to deceive the inexperienced surgeon into the belief that the operation will be a simple one. But, after tapping, he will soon be undeceived by finding the lower portion of the sac fused, sealed, and soldered to every pelvic organ and tissue.

Should the sac develop downwards, it pushes the posterior layer of the broad ligament backwards from its fellow and burrowing under Douglas' pouch invades the parametrium. There it uncovers the ureters, whose lower third lies between

the folds of the broad ligament, and, sometimes, by pressure, causes hydro-nephrosis and surgical kidney. On two occasions I have had to dissect several inches of one ureter out of its attachment to the tumor. One of these patients recovered; the other died on the table. It is so difficult a matter, during enucleation, to distinguish the ureter from the strips and bridles of lacerated tissue that, in my opinion, this important tube is often torn across without the knowledge of the surgeon, and that it is often an unknown cause of death. If the patient lives long enough, a flow of urine from the incision would occur, but usually the patient dies before this can happen.

Growing still further downwards, the sac goes on stripping up peritoneum and uncovers the great pelvic vessels, and even the walls of the bony pelvis, to which it seals itself. Then it lifts up the posterior skirt of the broad ligament and burrows into the folds of the meso-rectum, or of the mesentery, or of the meso-colon, or of the meso-cecum, and, prying the two layers of peritoneum apart, it comes into direct contact with these viscera, upon which it engrafts itself by continuity of structure. This makes their release an exceedingly difficult task, and they are liable to be torn, unless the coherent piece of the cyst is cut off and left behind. As the colon and small intestines are then pushed up in front of the cyst, an unexpected resonance on percussion will embarrass the diagnosis.

I have not yet wittingly torn open an intestine, but recently I had a successful case in which a fecal fistula resulted from sloughing of the wounded rectum. In another case, a fatal one, the sub-peritoneal portion of the cyst burrowed so low down between the vagina and the rectum as to cause the posterior wall of the vagina to bulge even out of the vulva. The operation was a most difficult one, and a fecal fistula was established a few days later.

Further, the capsule itself of broad ligament is very liable by inflammation to contract secondary adhesions with contiguous serous surfaces; so that, at the same time, there may exist direct structural cohesions, or union by continuity of tissue, and indirect inflammatory adhesions by contiguity of tissue. This double set of cohesions and adhesions greatly complicates matters, especially as every organ or viscus involved is distorted and displaced, sometimes beyond recognition.

One complication of the intra-ligamentary cyst must not be

overlooked: occasionally a papillary excrescence grows into the cyst-wall, and so ulcerates it or so thins it out that it bursts on very slight provocation. The contents of the sac then escape into the peritoneal cavity, and infect every nook and cranny of it with papillomata. More frequently, the excrescence penetrates the cyst-wall, and, emerging on the outer side of it as a surface growth, itself secretes directly into the peritoneal cavity the noxious fluid. Here comes up the very important question of the malignancy of the infection—viz., whether or not the life of a woman is doomed, whose whole serous cavity is studded with metastatic papillomata? This question is generally answered in the affirmative, although every ovariologist concedes exceptions to the rule of malignancy. My own experience would lead me to say that, while some of the cases die in a few months after the operation, the majority recover as promptly and as surely as cases in which laparotomy has been performed for chronic tubercular peritonitis. This leads me to think that I have probably mistaken the tubercles of chronic peritonitis for papillomata, and that the acrid fluid of a papillary cyst may sometimes infect the peritoneum as a virulent poison, and sometimes merely inflame it as an irritant.

*Diagnosis.*—The existence of an intra-ligamentary cyst cannot always be made out; but it can be reasonably suspected by the presence of some of the following signs: Whenever an enlarged and a laterally displaced womb is so closely adherent to a cyst as to simulate fibro-cystic tumor of the womb. Whenever the sound shows that the bladder is elongated vertically. Whenever a pelvic descent of the cyst flattens the rectum, or effaces the posterior vaginal *cul-de-sac*, especially by small subsidiary cysts. Whenever a cyst embarrasses the acts of defecation and of micturition. Whenever an adherent cyst bursts of its own accord, and not by violence. Whenever the growth of the cyst is accompanied by unusual pelvic pains. Whenever percussion elicits marked resonance in front of a cyst that is large enough to displace the bowels laterally and, therefore, to yield a flat sound. Lastly, whenever a firmly fixed cyst is unsymmetrical in shape, and more developed on one side of the pelvis than on the other.

When an intra-ligamentary cyst is exposed to view, through the abdominal wound, it presents a very peculiar appearance.



The lower portion of the sac in front is covered by a pale-red, fibro-muscular capsule, like that of a uterine myoma, for which it may be mistaken. The upper and more distant portion of the front aspect of the sac presents the usual pearly hue of an ovarian cyst. This portion is often free in the peritoneal cavity, and without adhesions; while the encapsulated portion is sub-peritoneal and immovably fixed. Like an acorn in its cup, the cyst has not a stem or pedicle. Consequently, its blood-vessels enter it, not inclosed in a single, slender stalk, as in ordinary ovarian cysts, but in two large sets, widely separated from each other by the intervening portion of the tumor. Thus, the uterine vessels enter it along the oviduct on the middle surface, and the spermatic vessels at the lateral border of the tumor. Sometimes the ligament intervening between these two sets of vessels splits open and, separating, gives two distinct pedicles to the tumor.

Smaller, thin-walled cysts are often present. They do not spring from the interior of the major cyst, but from a common base on its surface, on which they are sessile. According to J. Greig Smith,<sup>1</sup> "the uterus usually lies in a deep sulcus between the major cyst and the minor cysts, giving an appearance of two growths; but sometimes it lies behind the growths and is overlapped by them."

*The Operation.*—No cases in surgery demand more coolness, pluck, and judgment on the part of the operator, and none put his resources so much to the test. These are the cases which die on the table, and in which the utmost watchfulness is needed lest fatal collapse should happen shortly after the operation. Formerly when a cyst was found to be intra-ligamentary the abdominal wound was hastily closed up and the case abandoned. Now—thanks to Miner,<sup>2</sup> of Buffalo, N. Y., who first gave us the hint—we shell out the sac from its capsular nest, and need rarely to be foiled.

Since the bladder is usually dragged upon, and since it may be adherent to the flayed muscles of the abdominal wall, the incision should be made with the utmost care, the grooved director and vesical sound being put into requisition. Before any attempt at enucleation is made, the major cyst should be

<sup>1</sup> "Abdominal Surgery," p. 140; also *Annals of Surgery*, vol. II., 1885, p. 439.

<sup>2</sup> "Transactions International Med. Congress," 1876, p. 801.

emptied by the trocar, and the minor cysts by the aspirator. When all the fluid has been withdrawn, the opening made by the trocar should be closed by a ligature or by a clamp-forceps. This is done to prevent any of the papillary growths from escaping into the peritoneal cavity and infecting it. No attempt should be made to lessen the size of the tumor by the usual mode of enlarging the opening made by the trocar, and of breaking up the daughter-cysts with the introduced hand. This procedure answers well enough in ordinary intra-peritoneal and glandular ovarian cysts. But in an intra-ligamentary papillomatous cyst the hemorrhage would be too free, and the risk too great of infecting the peritoneal cavity by the escape into it of papillomatous material from the sac.

Firm traction is now made upon the collapsed cyst and, in some few cases, the whole encapsulated tumor can then be removed whole. For the dragging then forms a sort of pedicle of that portion of the capsule lying between the sac and the womb, to which organ it is almost always fastened. But this comparatively free condition of the capsule is rare, and the tumor will usually have to be slowly and carefully enucleated. Many vessels will need tying and more will demand the pressure-forceps. But this will depend wholly on the extent of the encapsulation, which varies greatly in different cases.

Miner's operation consists in slitting open the peritoneal capsule of the sac, at points as low down as possible. One finger or more being introduced into these openings successively, the serous and vascular envelope is stripped off in bands upwards to a point where the vessels become capillary. These bands or flaps of broad ligament are then to be tied, either singly or together in one or two bundles, and the redundant portion cut off. Sometimes the actual cautery will answer better than the ligature. Several times, in my practice, it has happened that these flaps did not bleed, and it was not needful either to tie them or to sear them. A drainage-tube should always be used, Ols-hausen being the only operator who discards it. This mode of enucleation is a hap-hazard one, and it is open to the objection of tearing the capsule, but I have repeatedly performed it successfully.

An improved technique now aims to keep the capsule whole and to avoid, as much as possible, tearing it or perforating it, which is unavoidable in Miner's plan. After the

sac is emptied, it is lifted out of the abdomen by Nélaton's forceps, and the capsule is incised little by little in a circle on a line level with the edges of the abdominal incision. The sac-wall is then, *pari passu*, so enucleated as to leave a neat cup-shaped cavity. To do this properly, it is well to begin the enucleation where large vessels enter the tumor, so as to cut off the supply of blood as early as possible in the operation. First tie and cut the spermatic vessels which run on the lateral border of the tumor; for the sac has a large vascular capsule, and not a slender stalk, through which it is nourished. Next, with the sound define the position of the womb, which is often masked as well as dislocated, by the enveloping sac. From the spermatic vessels to this point, carry a transverse incision through the capsule. Here will be found the large branches of the uterine artery. These, when severed, must be secured by ligature or by pressure-forceps. Through this transverse incision an attempt is made with the fingers and the scissors to shell out the tumor, care being taken not to tear or perforate the capsule; but such injuries to it are often unavoidable.

As the surgeon advances, he will have to tie or clamp many blood-vessels. At times he will be wholly at sea, not knowing where he is; but, by establishing the site of the womb and of the bladder by the sound, he will again get trustworthy landmarks and safe points of departure. To avoid soiling his hands, the sound should not be passed by the operator, but by an assistant. When no further advance can be gained in front, the incision is extended around the whole capsule, and the enucleation is carried on from each side and from behind, in such a way that the uterine attachment is left until the last.<sup>1</sup> The fact is, that one has to work from front to back, from side to side, gaining here and there a little, applying ligatures and catch-forceps at every advance, until the sac is wholly shelled out of its capsule, or until a sort of pedunculated attachment to the womb is formed, which can be ligated *en masse*. This ligature will sometimes have to include uterine tissue. It will be still more likely to include a portion of the cyst itself. In this case the secreting layer of the improvised pedicle should be either peeled off or charred by the thermo-cautery. In like manner, whenever attachments to important viscera cannot be

<sup>1</sup> Hegar and Kaltenbach, *op. cit.*, p. 233.

safely severed, the adherent portion of the sac must be cut out and left behind, the secreting layer being afterwards removed or destroyed. In some cases, it will be safer to extirpate the womb itself, together with its hood of coherent sac, than to attempt to free it. It is always an advantage, at this stage, to bring the elongated womb together with the appended sac, up out of the abdominal cavity, and to work at them outside of the body.

The base of the cyst, as has been stated, often burrows deep into the pelvis, and being in close relation with the rectum, the ureters, and the great pelvic vessels, needs most painstaking enucleation. Usually several large blood-vessels here will need to be tied. Sometimes they lie so deeply as not to be reached by ligature, and they must then be caught by long pressure-forceps, the handles of which are to be brought out at the lower angle of the abdominal wound, like a drainage-tube, and tied together. Oozing must be checked by sponge-pressure, by the thermo-cautery, and by Monsel's solution of iron. Internal hemorrhage may also occur. In one of my successful cases I had to reopen the wound four hours after the operation, in order to secure one of these deeply-situated vessels. The drainage-tube told the tale of hemorrhage.

The management of the vast cavity in the capsule must next be considered. Since there will always be some oozing of blood, which cannot be wholly stopped, and since much bloody serum from the flayed surfaces will pour out for several days to come, it is well, when possible, to secure the exclusion of the capsular cavity from that of the peritoneum. This may, sometimes, be accomplished by one of two ways.

By one way, as much of the capsule as possible is cut away, and the free edge of the remnant is attached to the borders of the abdominal incision, either by special sutures, or by the sutures which close up this wound. Any tear or any hole in the capsule should be sewn up on its peritoneal aspect by catgut sutures. This is done both to cut off the capsular cup wholly from the peritoneal cavity, and to get rid of a hole into which the omentum or a bowel-loop might enter and become strangulated. A large drainage-tube is finally passed into the capsule, the peritoneal cavity is cleansed by irrigation, and the abdominal wound is closed up. If numerous adhesions have also been severed in the peritoneal cavity

## 12 GOODELL: *Intra-Ligamentary Ovarian Cysts.*

proper, from which oozing keeps up, another drainage-tube must be inserted into it.

The other way of excluding the cavity of the capsule from that of the peritoneum has warm advocates among the best German operators; but its execution is more difficult: From the floor of the intra-ligamentary cup a long-handled catch-forceps is thrust downwards through the roof of the vagina, which is rendered tense by the introduction of two fingers from below. By this forceps, a rubber drainage-tube with wings is seized and drawn up into the capsular cavity. The vaginal end is wrapped in salicylated cotton or in iodoformed gauze, and the vagina loosely packed with the same material. The edges of the capsule are now trimmed and sewn, the one to the other, by catgut sutures, and its cavity thus securely isolated from that of the peritoneum. The difficulties here lie in the depth at which one must work, and in the patching up of a badly torn and ragged capsule.

Whenever neither of these modes of exclusion can be adopted, because either tissue enough has not been left to make a lid to the capsular cup, or the cup itself has been too badly torn to be sewn up, a large drainage-tube, or even two of them should be introduced into the pelvic cavity.

On the other hand, should it be found impossible to shell out the lower portion of the intra-ligamentary cyst from its capsule the secreting coat should be stripped off, or thoroughly scraped, so as to remove the papillary ingrowths. But usually, when a portion of an intra-ligamentary cyst has been left behind, a rapid proliferation of papillomata will go on, ending after a few months in death.



## REMOVAL OF A VAGINAL TAMPON ENCRUSTED WITH A COMPLETE SHELL OF LIME SALTS, TWENTY-NINE YEARS AFTER ITS INSERTION.

BY

F. E. BECKWITH, M.D.,

Professor of Clinical Gynecology Medical Department, Yale University,  
New Haven, Conn.

THE patient, who is 70 years of age and single, was admitted to the New Haven Hospital on June 1st, 1887. Her appearance was cachectic and she was very weak from long-standing diarrhea with tenesmus which compelled her to go to stool very frequently. She was so deaf that Dr. Barrows, the house physician, found it impossible to obtain a history.

The tenesmus and diarrhea were relieved by opium and kino, and it was found that with her straining nothing except clear mucus came away. Upon second inquiry, the fact that she had not had a fecal movement for three weeks was brought to light.

June 5th. The nurse saw a foreign body an inch within the vagina, which Dr. Barrows, upon examination, found to be a hard body, immovably fixed in the vagina, and therefore transferred the patient to the gynecological service.

June 7th. I examined vaginally, finding a hard rounded mass, about three inches in diameter, having at its presenting portion a large opening with jagged edges, which mass completely occluded the vagina and flattened the rectum.

The interior of this calcareous ball was full of a soft dark-brown material which gave out a most offensive odor.

A profuse, thin, foul-smelling discharge flowed out between the shell and the vaginal walls.

A tenacious, transparent, odorless, mucus oozed from the rectum which was found to be in healthy condition.

The diagnosis of a foreign body covered with a calcareous shell was made. The shell was about a quarter of an inch in thickness and easily broken with the uterine dressing forceps.

Several ounces of the shell and its contents were taken away until further renewal was stopped by free arterial hemorrhage, which was arrested by a tampon of absorbent cotton dipped in glycerin.

The mass inside came away in shreds and in the form of pulp of the consistence of putty.

It is evident that long ago a plug of coarse cotton or woollen stuff was placed in the vagina, and that around this a stony shell gradually formed. The patient did not know that anything had been put into her vagina.

Dr. Crane, upon microscopical examination, found particles of lime salts, small shreds, and crystals of tyrosin, but upon examination of a portion of the mass removed later could find only shreds and lime particles.

A portion of the shell and the soft contents were sent to Herbert E. Smith, professor of chemistry in Yale University, who found the former to consist of carbonate and phosphate of calcium and fat, and the latter of broken and interlacing cotton fibres.

June 8th. I removed a little more of the soft mass and its shell, but was obliged to stop and again tampon to arrest the very free hemorrhage.

June 9th. I removed the tampon and washed the vagina with a stream of hot water (T. 120° F.) from an irrigator for twenty minutes, thereby bringing away many shreds and calcareous particles without hemorrhage.

A vaginal douche (T. 104° F.) was ordered to be used four times daily.

June 10th. A large piece which presented at the vulva, considerable pulpy material, and a bit of rag were removed.

Hemorrhage again stopped the work, but was controlled by hot water without a tampon.

June 11th. Small particles of the shell came away during the use of the douche.

June 12th. No hard particles came away, but instead a soft pulp, looking like a paste of carbonate of lime. This kept up for a number of days.

June 20th. I examined with Sims' speculum, finding the vagina empty, and the cervix uteri in a state of cancerous degeneration, involving also the fundus vaginæ.

The edges of the cancerous tissue were ragged, ulcerated, and bled from the lightest touch.

July 6th. The patient died of progressive asthenia.

Fortunately Dr. Max Maihouse, of this city, who sent the patient to the Hospital, could give me the following brief statement.

About 29 years ago, around the period of the menopause, she consulted a midwife in Germany for supposed falling of the womb, following heavy lifting efforts. This midwife slipped a rude tampon into the vagina, and the patient never reported again.

It is known that since then she has not consulted a physician.

This tampon lay in the vagina until I removed it, in the degenerated condition above described, twenty-nine years after its insertion.

## A YEAR'S WORK IN LAPAROTOMY.

(FORTY-FIVE OPERATIONS.)

BY

PAUL F. MUNDÉ, M.D.,

Professor of Gynecology at the New York Polyclinic; Gynecologist to Mount Sinai Hospital.

(With four photo-engraved plates.)

IT has become customary of late years for laparotomists to publish at intervals series of cases of abdominal section which they have performed. Such reports are valuable and instructive if they contain cases of exceptional interest or if the operator has special experience or certain practical hints of his own to communicate which may be of use to other operators. A mere stringing together of a number of cases is neither interesting nor beneficial to any one but the operator. Thinking that I have during the past year met with a sufficient number of unusual cases of laparotomy to warrant their being reported in a separate article, and wishing to put on record my practice and experience in abdominal surgery, I have decided to follow the popular custom and to publish a brief report of my abdominal operations during the past year.

During the twelve working months from October 16th, 1886, to January 1st, 1887 (omitting the three summer months when I am out of town), I performed 45 laparotomies. Of these,

22 were ovariectomies (17 recoveries),

13 were salpingo-oöphorectomies (12 recoveries),

2 were oöphorectomies (2 recoveries),

2 were hysterectomies (2 recoveries),

4 were exploratory incisions (4 recoveries),

1 was for encapsulated intraperitoneal abscess (death),

and 1 for intestinal obstruction (death);

that is, 37 recoveries and 8 deaths.

Sixteen were private cases, with but one death—the case of intestinal obstruction, a hopeless case as will be seen—and 29 hospital or charity cases. Some of the private operations were performed in the hospital, the patients having separate rooms and special nurses. Of the 35 operations involving removal of the

ovaries and tubes, 22 were double and 13 single. In 27 of these latter cases there were adhesions, generally very extensive; of these 5 died. The drainage tube was employed 12 times in 36 cases. On three patients laparotomy was performed twice (one case, two explorativ incisions with recovery; one case, ovariectomy during pregnancy, recovery; second operation after delivery, for intestinal obstruction, death; one case, single salpingo-oöphorectomy by another operator a year before, recovery after second operation). On one patient I performed a third laparotomy for a cyst of the broad ligament and a ventral hernia, both ovaries having been previously removed for tumor at two operations by another operator.

Before proceeding to relate in detail the unusually interesting cases, I will explain the reasons for the nomenclature which I have given to the different forms of laparotomy.

Under the head of *ovariotomy* I have included the removal of tumors of the ovary, great or small, without reference to the disease of the tube (which in such cases is almost always of secondary importance), and cysts of the broad ligament which practically, so far as the operation is concerned, are identical with intraligamentous ovarian cysts.

Under the head of *salpingo-oöphorectomy* I have included the removal of diseased tubes *chiefly*, together with the ovaries, diseased or not, as the case might be, but not enlarged to the size of what is known as a tumor. This is the operation which has been known for some time past by the name of the operator who may be said to have first given it a distinct position in abdominal surgery—Tait. I have preferred to give it another name in order to avoid the confusion which still exists in the designation of the different operations relating to the removal of diseased ovaries and tubes. I have included under this heading all cases in which the tubes were enlarged, distended by fluid, or, with the ovaries, adherent to the neighboring organs. I wish it distinctly understood that in these cases the disease of the tubes generally exceeded by far that of the ovary.

Under the title *oöphorectomy* I mean the removal of the ovaries and tubes which *macroscopically* do not appear diseased, the operation being performed for the purpose of bringing on the menopause either for the relief of reflex neuroses, menstrual, psychic, or physical (Battey's operation), or to check the growth and symptoms of uterine fibroids (Hegar's operation). This

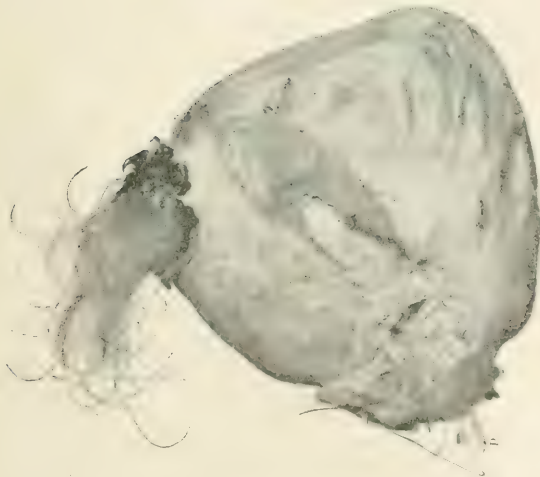


FIG. A.

MEXICO; LAPAROTOMIES, 1886-87.

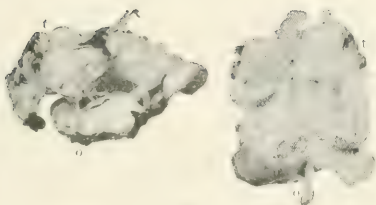
Case 10, Double-ovariotomy during Pregnancy; Dermoid tumors, Fig. "A," left tumor, blond hair; attachment of ruptured part of cyst, which was accidentally torn from the specimen.



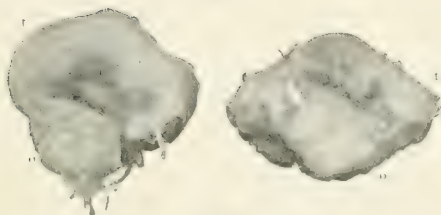
FIG. B.

Case 10, Double-ovariotomy during Pregnancy; Dermoid tumors, Fig. "B," right tumor, black hair; at "c" showing

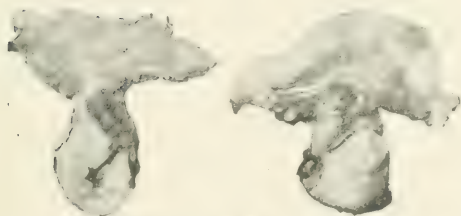




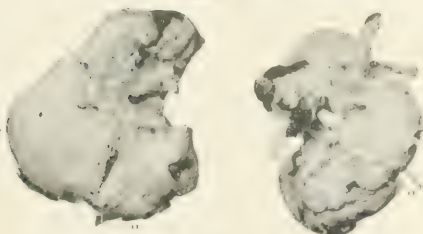
CASE 11.



CASE 54.



CASE 62.



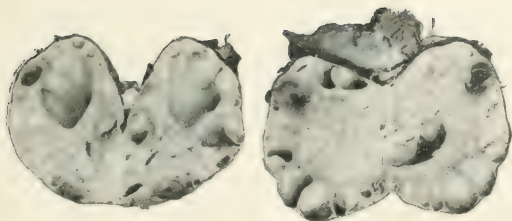
CASE 56.

MUNDÉ ; LAPAROTOMIES, 1886-87.

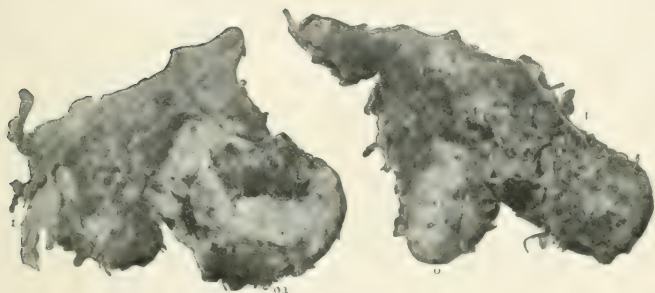
Cases 11, 54, 62 and 56, double Salpingo-oöphoritis, all with complete adhesions; "o," ovary; "t," tube. (No. 11 not included in table, produced merely to show filmy adhesions.)



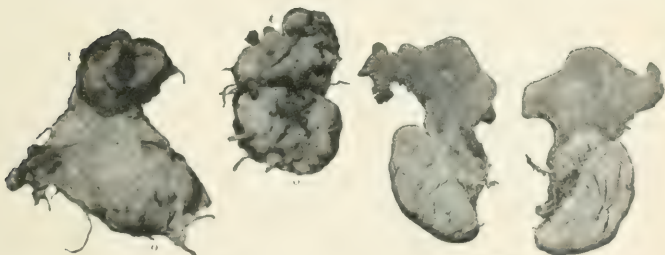




CASE 63.



CASE 51.



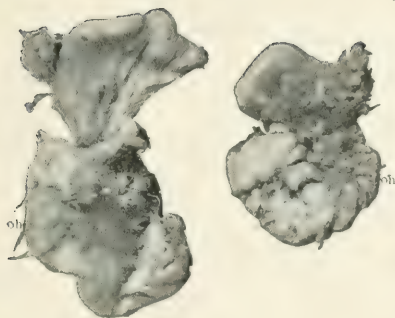
CASE 52.

CASE 52.

MUNDÉ; LAPAROTOMIES, 1886-87.

Case 63. Polycystic Ovaries, tubes normal. Case 51, Double Pyo-salpinx. One ovarian abscess, "oa." Case 52, Double Salpingo-oöphoritis. Case 52, Double Peri-oöphoritis; ovaries and tubes small, tubes intensely congested; "o," ovary; "t," tube.

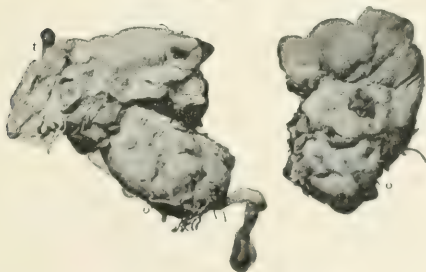




CASE 59.



CASE 27.



CASE 57.

MUNDÉ: LAPAROTOMIES, 1886-87.

Case 59, Hematoma of both Ovaries. Case 27, Double Pyo-salpinx and Ovarian abscess, "oh." Case 57, Double Salpingo-oöphoritis, all with complete adhesions; "o," ovary; "t," tube; "oh," Ovarian Hematoma. (No. 27 not included in table.)



latter operation is called by the Germans "castration"—a term which expresses very well the anatomical and physiological consequences of the operation, but which, in the English language, has hitherto been applied only to the male, as the term "spaying" has been applied to the female. I prefer to use the more scientific term "oöphorectomy," viz., excision of the ovary; I do not say *normal* ovary, because as yet we are in doubt whether possibly the ovaries are not *always* pathological, under the microscope at least, whenever they produce symptoms such as occur in reflex neuroses. Presumably, when the ovaries are removed to check the growth of fibroids, the ovaries are normal. I am waiting for a larger number of cases (so far I have had but three opportunities to remove apparently normal ovaries for neuroses) before reporting my experience with this indication for the operation.

I will but say that, whenever I have removed the ovaries I have *always* included the tubes, whether diseased or not, in the ligature, since I could see no reason for leaving the tubes when the ovaries were removed, any more than I can understand why the ovaries should be left if the tubes are removed. Either one of these organs, without the other, is useless. Besides, the operation is quite as easy, if not easier, so far as the application of the ligature is concerned, if ovaries and tubes are removed together.

In order to aid in settling the question as to what is really Battey's, and what is Hegar's, and what is Tait's operation, I will briefly state the result of my understanding of the writings of these three surgeons.

*Battey's operation*: "Normal ovariectomy" is the removal of the presumably healthy ovaries and tubes, in order to produce the menopause (advised for reflex menstrual and other neuroses, physical and mental, distinctly referable to the function of the ovaries, and probably curable by the cessation of that function).

*Hegar's operation*: "Castration," "spaying," "oöphorectomy," is the removal of the not enlarged but probably *microscopically* more or less diseased ovaries (chronic oöphoritis, cystic degeneration, hematoma) for the relief of local pain and of reflex neuroses attributable to that pain.

Also, removal of normal ovaries and tubes to arrest the growth of uterine fibroids and the menorrhagia caused by them. Claim of priority is laid to this indication for oöphorectomy by

## LAPAROTOMIES, 1886-87.

Number.	Date.	Initials.	Age.	Married or single.	Child or abortion.	Pathological condition requiring operation.	Source of trouble.	Adhesions.	Drainage.	Hospital or private.	Result.	Ultimate result.	Remarks.	Cause of death.
A. Ovariectomies.														
29	1886, Oct. 16th.	M. S.	34	M.	5	Multiloc. ovar. cyst. Pregnancy.	S.	Extensive retroperitoneal.	No.	P.	R.	....	Pregnant 4½ mos. Safely delivered at term. Quilt suture to stop oozing.	
30	Nov. 3d.	J. R.	22	M.	..	Suppur. cyst of right ovary.	S.	Uni- versal	Yes.	H.	D.	....	Septic peritonitis, Nov. 10th.	
31	Dec. 1st.	R. A.	24	M.	..	Cyst of left ovary. Adherent right ovary.	D.	Yes.	No.	H.	R.	Permanent recovery.	Severe hem. from adhesions of r. ovary; deep ligatures. Weight, 30 pounds.	
32	Dec. 5th.	M. W.	60	W.	6	Monocyst. of left ovary.	S.	..	No.	P.	R.	Permanent recovery.	....	
33	Dec. 8th.	M. B.	23	M.	..	Suppur. cyst of l. ov. Intra-ligamentous	S.	Uni- versal	Yes.	H.	D.	....	....	Septic peritonitis.
34	Dec. 22d.	M. C.	45	M.	4	Large dermoid l. ov. Pelvic multiloc. cyst right ovary.	D.	Dermoid, universal.	No.	H.	R.	Permanent recovery.	Explor. incis. by other operation a year before. Oper. abandoned. Adhesions most extensive I ever saw when cyst could be removed, to intestines, omentum, liver, etc. Weight, 10 pounds.	

1887.	C. O.	S.	Right ovary, mono cyst.	D.	No.	P.	R.	Permanent recovery.	.....
35 Jan. 5th.			Left, small hematoma.						
36 Feb. 11th.	H. C.	42 M.	Both mono- cysts.	D.	No.	H.	R.	Permanent recovery.	.....
37 Mar. 30th.	F. S.	35 M.	4 Large dermoid of right ova- ry; cystic degenera- tion of left ovary.	D. Slight	No.	P.	R.	Permanent recovery.	Gravida 7½ mos. Induced prem. labor, living child; remained alive. Ovario- tomy 4 weeks later. Weight, 12 pounds. Acute interstitial nephritis 3 weeks after operation.
38 Mar. 30th.	E. P.	35 M.	Large hema- toma of left broad liga- ment.	S. Intra- lig.	Yes	H.	D.	.....	Severe hem. from broad lig. Died well for 7 days. Died on 11th day.
39 April 6th.	F. S.	30 M.	1 Small cyst of left ovary. Adhesion of right ovary and tube.	D. Uni- versal	Yes	P.	R.	Permanent recovery.	Acute interst. nephritis 3 weeks after operation. Ex- udation in left side of pel- vis. Convalescence pro- tracted.
40 April 23d.	M. B.	23 M.	1 Dermoid cysts of both ova- ries. Preg- nant 5 mos.	D. To blad- der ant. abdom. wall.	No.	P.	R.	Permanent recovery.	Operation indicated by occu- pation of pelvic cavity by a tumor, which would pre- vent normal delivery. Other ovary a dermoid cyst, size of fist, attached to ant. abdom. wall near umbilicus. General chronic peritonitis caused by rup- ture of one cyst months before. Delivery on 3d day; whole ovum intact.

Number.	Date.	Initials.	Age.	Married or single.	Children or abortions.	Pathological condition requiring operation.	Single or double.	Adhesions.	Drainage.	Hospital or private.	Result.	Ultimate result.	Remarks.	Cause of death.
41	May 25th.	M. E.	43	M.	0	Ventral hernia. Dermoid cyst of left broad ligament.	..	Intraligamentous.	Yes	H.	R.	Permanent recovery.	Intralig. cyst of left ovary removed March, '81; adherent cyst of right ovary removed December, '81; both by Küster in Berlin. Large ventral hernia; cyst reaches to umbilicus on left side; contains colloid matter and bone. Reaches to floor of pelvis. Enucleation of sac; broad lig. sewed to abdominal wound. Packed with iodof. gauze. Irrigation and drainage. Slow but sure recovery; ventral hernia was excised and cured.	
42	May 25th.	T. W.	34	W.	0	Small dermoid cyst of left ovary.	D.	..	..	H.	R.	Small hematoma formed at right pedicle. Complete recovery.	Other ovary removed by wish of patient.	
43	June 1st.	R. B.	30	M.	6	Multilocular cyst of right ovary. Left ovary cystic	D.	Numerous adhesions to ant. abdominal wall; quilt suture.	No.	H.	R.	Permanent recovery.	.....	



44	June 1st.	R. I. 30 M.	0	Intraligamentous cyst of right ovary.	S.	Intra-lig.	Yes.	H.	D.	....	Enucleation very difficult; Septic peritonitis.
45	June 5th.	P. F. 43 M.	1	Multilocular cyst.	S.	Complete.	Yes	P.	R.	Permanent recovery. Cyst nearly closed 3 mos. later.	Cyst completely adherent everywhere. Enucleation impossible. Filled with papillomatous masses attached to posterior wall. Rapid removal of papillomas with hand, hot irrigation, and Miculicz' drainage sac, which was changed on 6th day. Ligatures of pedicles came away 3 months later.
46	June 19th.	I. S. 32 M.	2	Small suppurating cyst of left ovary; right, cystic.	D.	Complete on left side.	Yes	P.	R.	Permanent recovery.	Double torsion of pedicle to left, cyst size of coconut. Cutting of lig. on right pedicle. Secondary hemorrhage. Exhaustion.
47	Sept. 14th.	E. L. 25 S.	..	Dermoid cyst of left ovary	S.	..	..	H.	R.	Permanent recovery.	Secondary hemorrhage. Exhaustion.
48	Sept. 14th.	M. S. 48 M.	6	Carcinoma of both ovaries	D.	..	..	H.	D.	....	Double torsion of pedicle to left, cyst size of coconut. Cutting of lig. on right pedicle. Secondary hemorrhage. Exhaustion.
49	Oct. 12th.	A. C. 27 M.	1	Monocyst of left ovary. Chronic pelvic peritonitis.	S.	Unilateral.	Yes	H.	R.	....	Cyst burst; too friable to be removed entire. Very bad case.
50	Dec. 14th.	G. M. 42 M.	7	Polycyst of right ovary.	S.	None.	No.	H.	R.	....	Weight, 20 pounds.

17 Recoveries, 5 Deaths.

Number	Date	Initials	Age	Married or single	Previous operations	Pathological condition requiring operation	Single or double	Adhesions	Drainage	Hospital or private	Result	Ultimate result	Remarks	Cause of death
<i>B. Salpingo-oöphorectomies</i>														
51	1886, Nov. 7th.	G. M.	29 W.	..	..	Abscess of left ovary; right, large pyo-salpinx.	D.	Un- versal	D.	H.	R.	Permanent recovery.	Right tube size of large sausage, adherent to whole posterior surface of uterus and touchable behind cervix.	
52	Nov. 14th.	C. G.	23 S.	..	..	Double peri-oöphoritis.	D.	Ex- ten- sive.	No.	P.	R.	Permanent recovery.	Ovaries shriveled and tubes intensely congested.	
53	Nov. 24th.	H. R.	28 M.	..	..	Hemat o-sal-pinx of left side.	S.	Ex- ten- sive.	No.	H.	R.	Permanent recovery.	Universal adhesions. Cyst ruptured. Warm irrigation. Uneventful recovery. Hematoma as large as two fists.	
54	Dec. 15th.	S. L.	25 M.	..	..	Chronic sal-pingo-oöphoritis.	D.	Com- plete.	No.	H.	R.	Permanent recovery.	Considerable hypertrophy of tubes.	
55	Dec. 23d.	L. A.	35 M.	..	..	Double pyo-salpinx.	D.	Com- plete.	Yes	H.	D.		Abdomen reopened before death, and washed out. No cause for sepsis found.	General septi-cemia.
56	1887, Feb. 9th.	B. L.	30 M.	..	..	Double salpin-go-oöphoritis	D.	Com- plete.	No.	H.	R.	Has climac- teric neu- roses.	Tubes much hypertrophied.	
57	Feb. 23d.	S. S.	25 M.	2	..	Double salpin-go-oöphoritis	D.	Com- plete.	No.	P.	R.	Permanent recovery.	Tubes much hypertrophied. Ovaries not enlarged.	
58	Mar. 9th.	M. L.	26 W.	..	..	Double salpin-go-oöphoritis	D.	Com- plete.	No.	H.	R.	Permanent recovery.	Small intestine accidentally cut into while opening peritoneal cavity. Catgut suture. No reaction.	

	P. C. T '88	M.	..	Hematoma of both ovaries	D.	Uni- versal	Yes	P.	R.	Permanent recovery.	Cysts ruptured on removal; grumous blood washed out freely. Each cyst size of orange. Both tub. enlarged.
59 June 19th.											
60 Sept. 21st.	II. S.	28 S.	..	Salpingo-oöphoritis.	S.	Quite extensive.	No.	II.	R.	Permanent recovery.	Adhesions on left side detached, but as ovary and tube seemed healthy, they were returned. Right, enlarged, adherent, and removed.
61 Oct. 5th.	P. U.	25 S.	..	Right salpingo-oöphoritis	S.	Quite extensive.	No.	II.	R.	....	Left ovary and tube removed by Dr. Polk 1 year ago. Return of symptoms on right side.
62 Nov. 23d.	K. M.	24 M.	..	Salpingo-oöphoritis.	D.	Uni- versal	No.	H.	R.	As yet perfect recovery.	Both ovaries cystic, and one with small hematoma. Rupture of cysts during removal.
63 Nov. 23d.	E. R.	20 S.	..	Salpingo-oöphoritis.	D.	Uni- versal	No.	H.	R.	As yet perfect recovery.	Veneral history since 14th year. Reflex vomiting. Ovaries as large as hen's egg; tubes not enlarged. considerable oozing during operation.

12 Recoveries, 1 Death.

*C. Oöphorectomies.*

			..	Hystero-epilepsy.	D.	..	No.	P.	R.	Partial improvement.	Ovaries apparently normal.
1887.											
64 Jan. 19th.	F. H.	21 S.	..	Hystero-epilepsy.	D.	..	No.	P.	R.	Permanent recovery.	Indication for operation is constant pelvic pain from pressure of tumor.
65 May 7th.	L. E.	31 M.	..	Interstitial fibroid of uterus.	D.	..	No.	P.	R.	2 Recoveries.	

Number.	Date.	Initials.	Age.	Married or single.	Children or abortions.	Pathological condition requiring operation.	Single or double.	Adhesion.	Drainage.	Hospital or private.	Result.	Ultimate result.	Remarks.	Cause of death.
<i>D. Hysterectomy.</i>														
66	1887. Sept. 27th.	S. B.	30	S.	..	Subperitoneal fibroid of uterus.	D.	..	Yes	P. R.	Permanent recovery.	No adhesions.	Weight, 94 pounds. Sprung from fundus. Extraperitoneal treatment of stump, elastic ligature, and pins. Cyst of right broad ligament emptied and drained.	
67	Dec. 21st.	A. C.	34	M.	2	Multiple Uterine fibroids.	D.	..	No.	H. R.	Doing well to date.	No adhesions.	Weight, 6½ lbs. Operation difficult. No pelvic disease. Extra-peritoneal treatment of stump, elastic ligature, and pins. Pelvic portion had to be enucleated with fingers. Mulatto.	
<i>E. Exploratory Incisions.</i>														
68	1887. Sept. 14th.	J. S.	30	M.	..	Papilloma of both ovaries and uterus.	..	..	H. R.	Abdomen began to swell 113 weeks later.	Large, non-malignant papilloma. Indication for explorative incision was ascites. Had been tapped, and pelvic tumor then detected. Unremovable.			

69	Sept. 28th.	M. M. 33	S.	..	..	..	No return of Ovaries and tubes probably tubercular. Mesentery studded with small tubercles. Lungs healthy. No tuberculous history. Died of general tuberculosis and marasmus on Dec. 20th.
70	Oct. 5th.	A. B.	16	S.	..	H.	Recovery from operation. Wound healed. Death on 10th day from hypostatic pleuro-pneumonia.
71	Nov. 3d.	J. S.	30	M.	..	Yes H. R.	Renewed attempt at removal. Profuse hemorrhage, which compelled me to desist. Adhesions too extensive.

## 4 Recoveries.

## F. Intestinal Obstruction.

72	Mar. 17th.	M. S.	34	M.	6	Fecal vomiting.	..	..	P.	D.	....	Same as Case 29. Normal delivery; 2 days later vomiting, finally fecal. Operation, 10th day; not allowed sooner. Numerous adhesions. Constricting band in right iliac fossa and numerous other adhesions.	Exhaustion. Death after 16 hours.
----	------------	-------	----	----	---	-----------------	----	----	----	----	------	---	-----------------------------------

## G. Encapsulated Intra-peritoneal Abscess.

73	Dec. 25th.	S. R.	32	M.	5	Encapsulated intra-peritoneal abscess.	..	Uni- versal	Yes H.	D.	....	Very bad case. Copious hot intra-peritoneal irrigation. Shock after the operation. Abscess over one quart fecid pus.	Exhaustion before and shock after the operation, 36 hours.
----	------------	-------	----	----	---	--	----	----------------	--------	----	------	--	--

TOTAL: 16 Private, 29 Hospital. 37 Recoveries, 8 Deaths.

Trenholme, of Montreal, who first performed it in January, 1876, Hegar following independently in August of the same year.

The question whether the ovaries are diseased or not should not, according to Hegar,<sup>1</sup> influence the name of the operation, which should be "castration," for every case of removal of the ovaries for the purpose of inducing the menopause.

Not the pathological condition of the ovaries, but the object attained by their removal, should, therefore, determine the name of the operation.

*Tait's operation:* "Salpingotomy," "salpingo-oöphorectomy," is the removal of the *diseased* tubes and ovaries, the tubal disease usually by far exceeding that of the ovaries, and being the chief indication for the operation (pachysalpingitis, pyo-salpinx, hydro-salpinx, hemato-salpinx, catarrhal salpingitis, all usually with extensive peritoneal adhesions).

The removal of the *normal* tubes and ovaries is not, as I understand it, "Tait's operation." To avoid this confusion, it would be better to call an operation by its anatomical and surgical name, or after the object in view, rather than by the name of the man who devised it. The best way would be to combine both methods, thus: Hegar's operation for colpo-perineorrhaphy, Tait's operation for salpingo-oöphorectomy, Emmet's operation for laceration of the cervix uteri, etc. But this plan is long and burdensome, and the only real way to avoid misunderstanding is for the whole profession to be perfectly sure what a certain operation bearing the name of its inventor is, and then to adhere to that nomenclature.

In the accompanying table, the numbering of the cases dates from my first case, my previous laparotomies being 28 in number. The plates are from photographs by Mr. O. G. Mason, photographer to Bellevue Hospital.

Foremost among the ovariectomies are three cases of ovarian tumor complicated by pregnancy, which, curiously, all occurred to me in the course of one year.<sup>2</sup>

CASE 29.—*Pregnancy of Five Months; Multilocular Ovarian Cyst; Ovariectomy; Recovery; Labor at Term.*—Mrs. P. S., 32 years of age, mother of four children, was seen by me in consultation with her physician, Dr. A. C. Benedict, of Yonkers, in September, 1886. The doctor had diagnosticated an ovarian tumor, and on account of its rapid increase, the constant vomit-

<sup>1</sup> Centralblatt f. Gyn., Oct. 29th, 1887.

<sup>2</sup> These cases were reported in the N. Y. Medical Journal for August 6th, 1887.

ing of the patient, and her diminution of strength, he had tapped the cyst several weeks previously. It was now again refilling, and, fearing a return of the vomiting, he consulted me as to the advisability of a speedy operation. There was a suspicion of pregnancy, the patient having menstruated once four months before, while nursing her ten-months-old baby, but not since. I satisfied myself on examination not only of the presence of a multilocular cyst of the ovary, but also of an enlarged uterus, and did not hesitate to diagnosticate pregnancy. The patient's general condition was so bad that I advised feeding and stimulation *ad libitum*, and a postponement of the operation until the increase in size of the tumor or the return of the vomiting should call for speedy interference. She steadily gained strength and came to my office from Yonkers to see me. But a return of the vomiting within three weeks after my visit induced her to demand the operation at once, which was done on October 13th, at her home, under all antiseptic precautions, and with the assistance of my two associates, Drs. Grandin and Wells, and of Drs. Benedict and Warren, of Yonkers. The cyst was found largely adherent to the anterior abdominal wall, and was so friable that it was removed with some difficulty. It sprang from the right ovary. The left ovary was found healthy and was not removed. The uterus was carefully avoided. Fortunately the pedicle was long. Profuse oozing from torn adhesions on the anterior abdominal wall was checked by deep abdominal sutures approximating the bleeding surfaces. Complete closure of the wound with silk. Catgut suture of the peritoneum. Duration of the operation fifty minutes. Weight of the tumor and fluid about twenty pounds.

Almost immediately after the operation vomiting recommenced and continued in spite of all that Dr. Benedict could do. He telegraphed for me, and I went to Yonkers on the third day and found the patient in danger of dying from inanition, with a perfectly normal temperature. I at once dilated the cervical canal gently but thoroughly with my index finger, and advised a hypodermic of morphine over the epigastrium. The vomiting then ceased, and the recovery was uninterrupted. About March 5th she was easily delivered of a full-grown child.

CASE 37.—*Large Multilocular Dermoid Tumor; Pregnancy at Seven Months; Induction of Premature Labor; Living Child; Ovariectomy Five Weeks after Delivery; Recovery.*—Mrs. C. S., 41 years of age, multipara, consulted me May 7th, 1886, for an abdominal tumor, which I pronounced to be an ovarian polycyst, probably partly solid. Her umbilical circumference was forty-two inches. As I was about to go abroad, and the tumor was growing very slowly, I advised her to wait until the autumn, and then return to the city from her home in New Hampshire and have it removed.

In the autumn she wrote me that she was four months pregnant. I advised her to come on at once and have the tumor

removed. But I heard nothing from her until January 18th, 1887, when she came to my office. She was then fully six months pregnant, and I deemed it wiser for her to have premature labor induced as soon as the child was viable, and defer the ovariectomy until a later period. Accordingly, on February 25th, when her size had become such as to materially incommode her, I induced labor by inserting and leaving a catheter in the uterus, and the subsequent use of Barnes' dilators. A living child, weighing four pounds and a half, was born, which was brought up by hand, and eventually thrived well.

On March 30th I performed ovariectomy, removing a dermoid cyst of the right ovary, weighing twelve pounds, and containing numerous smooth, yellow balls of the size of hazel-nuts, floating in a pea-soup-colored fluid. These balls were examined by Professor Welch, of Johns Hopkins University, Baltimore, who pronounced them a great rarity, there being only two other cases on record—one by Rokitsansky, Sr., the other by Routh, of London. Since then Christian Fenger, of Chicago, has reported a similar case from his own practice. Professor Welch states that the balls are composed of sebaceous matter, each ball containing one hair. The manner of their formation and of their acquiring so uniform and regular a shape, as by attrition, is a mystery.



The second ovary, being cystic, was also removed. Recovery was uninterrupted until the third week, and the patient was out of bed, when she was suddenly and mysteriously attacked with acute pyelonephritis, which for a time jeopardized her life, but from which she gradually recovered perfectly, returning home in June.

Having last spring had two cases of acute nephritis with pus and albumin in the urine, both occurring three weeks after laparotomy, in which ether was the anesthetic used, and there being no other cause for the nephritis discoverable, I have done my last 25 laparotomies under chloroform, without observing any kidney complications.\*

*CASE 39.—Dermoid Tumor of Each Ovary ; Chronic Peritonitis from Rupture of One Cyst ; Pregnancy at Five Months ; Ovariectomy ; Immature Delivery ; Recovery.*—Mrs. B., 23 years of age, four months in her second pregnancy, consulted me April 2d, 1887, by advice of her physician, Dr. S. Glück, for a bearing-down sensation, which, she having had a very difficult first confinement, caused her more mental uneasiness than physical pain. I found the pelvic cavity filled with an elastic, immovable



mass, the cervix high up on the left, barely recognizable by the finger. Through the abdominal wall an indistinct enlargement could be felt on the right side reaching to the umbilicus; on the left side a solid tumor of the size and shape of the spleen. A subsequent examination, under chloroform, at the home of the patient, showed that the tumor in the pelvis was undoubtedly an ovarian cyst, and the tumor on the right side of the abdomen the gravid uterus. The nature of the small, hard tumor on the left side was doubtful. I made the diagnosis of an impacted ovarian cyst in the pelvis, with pregnancy of about five months, and advised speedy laparotomy as the best means of securing not only a continuation of pregnancy, but also a possibility, if pregnancy should not be interrupted, of permitting the birth of a living child *per vias naturales*, which, under present conditions, was, even at that early period, impossible. The other alternatives were, first, to puncture and empty the pelvic tumor, and take the chances of its refilling before the time for natural labor came on; second, the induction of abortion at once, which would, of course, deprive the patient of the possibility of bearing a viable child; and, third, the postponement of operative interference until at or near term, when ovariectomy, or probably Cæsarean section, might be called for.

Considering the excellent results obtained by ovariectomy during pregnancy in the many reported cases, as regards the persistence of pregnancy and the recovery of the mother, and the dangers and uncertain results of puncture of the pelvic cyst and Cæsarean section or ovariectomy at term, I advised early removal of the ovarian cyst, with the hope that the pregnancy would not be interrupted. Realizing the grave character of the case, I asked for a consultation with Dr. T. G. Thomas, who, after a thorough examination, concurred in my opinion.

Therefore, on April 23d, I operated at the patient's residence, all the usual antiseptic precautions (removal of carpets, curtains, furniture, fumigation of room, spray several hours before, etc.) being observed, with the assistance of Dr. Glück, who kindly administered the chloroform, and my associates, Drs. Grandin and Wells.

In reaching the peritoneum, the first difficulty was encountered, for the, as it proved, very much thickened peritoneum was hard to recognize. Only careful dissection prevented my injuring the bladder, which proved, when the peritoneal cavity was opened, to be attached to the peritoneum and the tumor on the left side, and was thereby drawn up nearly to the level of the umbilicus. I first removed this left tumor, after ligating and severing its attachments to the bladder, and found it to be a solid dermoid tumor filled with *black* hair. On searching for the pedicle of the right or intra-pelvic tumor, I was at first puzzled to find it, and thought I had to deal with an intra-ligamentous cyst which had grown down into the pelvic cavity. My only choice seemed to be to split its capsule and enucleate it, or else to open and drain

it through the vagina. But, on following the course of the Fallopian tube down toward the tumor, I suddenly grasped a large, flaccid sac lying loose in the abdominal cavity, which, on lifting it up, I found contained a rent into which I could pass my hand. The escape of abundant fluid from the peritoneal cavity, when it was first opened, was now explained. I had believed this fluid to be ascitic, the result of the chronic peritonitis, which was but too evident. But now I saw that this fluid was the contents of the ruptured right cyst (the escape of which months before—I afterward learned that the patient had an attack of peritonitis one year and a half before—had caused the thickening of the peritoneum and the adhesions). Drawing on this flaccid sac, I was able to dislodge the pelvic tumor, which was multilocular and semi-solid, and to bring it through the abdominal incision. Its pedicle was very broad and vascular, and I was obliged to clamp, tie and sear it so close to the uterus that I at once expressed the fear that that organ in its gravid state would not bear such active interference. This pedicle, like that of the left side, was dropped, and the abdominal cavity was thoroughly washed out with a solution of boric acid, 1 to 1,000, poured in from a pitcher. The abdominal wound was then closed by running catgut sutures applied in layers, beginning with the peritoneum. No drainage tube was used, although the last sponge on a holder removed viscid fluid from Douglas' pouch. But, as the large gravid uterus interfered with the insertion of a glass drainage tube, and as none but a curved or flexible tube would have answered, which was not at hand, it was thought best to take the chances of omitting drainage, trusting to the non-receptivity of the thickened peritoneum to septic influences—an assumption which proved correct.

The next three days were anxious ones, for the patient began to vomit soon after recovering from the chloroform, and nothing apparently could check this distressing symptom. On the third day, uterine contractions set in, in spite of the hypodermics of morphine which had been given at intervals since the operation to keep the uterus quiet; and on the fourth day I was suddenly called to find the whole intact ovum escaping from the vulva. Fortunately, the uterus contracted well, and no hemorrhage took place; therefore, no ergot was given. Several hours later, the temperature rose to  $101^{\circ}$ , the pulse to 130; the patient was dreadfully collapsed, the tongue being dry and red, the lips parched and chafed, and the blood apparently stagnating in the extremities, through the skin of which the purple veins could plainly be seen. The vomiting also persisted. I felt obliged to consider these symptoms due to septicemia, and confess that I feared a rapid fatal issue. I ordered five drops every hour of a two-per-cent solution of cocaine for the vomiting, and hypodermics of camphor and ether, and left the patient late in the evening, feeling doubtful as to whether I should find her alive next morning. But, after all, these threatening symptoms must

have been due entirely to mental shock, produced by the disappointment of the patient at losing her child, with no prospect of another, this shock acting on a system weakened by three days' vomiting; for, after a few doses of cocaine, the vomiting ceased, reaction came on, and on the next morning I found the patient visibly better. From that time on, convalescence was undisturbed, and the patient left her bed on the twentieth day. She is now a perfectly well woman. The uterus has regained its normal position in the pelvis, but is very little movable, owing to the adhesion of the pedicles of the tumors and the chronic peritonitis.

The tumors were both dermoid, the left one being solid—that is, filled with sebaceous matter and *black* hair—the right one being multilocular, one sac containing *blond* hair, the remainder presenting the usual appearances of an ovarian polycyst. The contents were so thick that an attempt to drain them through the vagina would have failed. This latter (pelvic) tumor fortunately had no adhesions whatever. (See Plate I.)

The large flaccid sac of the cyst which had previously ruptured was accidentally detached during the operation, and is not shown in the plate.

That the patient should have conceived with both ovaries so fearfully degenerated is indeed a marvel, and should teach us a lesson to preserve even portions of ovaries with the pervious tube (if the latter *is* pervious) during ovariectomies.

These three cases of pregnancy complicated by ovarian tumors illustrate several phases of this rare combination, the first being an instance of ovariectomy during pregnancy, with preservation of the fetus till term, and recovery of the mother; the second, the induction of premature labor, with the delivery of a living and still living child, and the early subsequent removal of the tumor, with recovery; the third, successful removal of the ovarian tumors, but interruption of gestation in consequence. So far as the chances of recovery from ovariectomy during pregnancy are concerned, they are fully as good as when no pregnancy exists. As regards the continuance of gestation, in the early months usually the prospect is also favorable. In the later months, when the child is viable and likely to survive, the induction of premature labor would appear to be preferable, with subsequent ovariectomy. When the operation is not urgent, it is well to defer it until the child has attained viability, in case the operation should bring on labor. I regret that in my third case the peculiar seat of the tumor in the pelvic cavity, and the fear of extensive adhesions and an increase in difficulty of the operation, if it was deferred, obliged me to

advise and perform it when the child was not yet viable. In another similar case, I think I should take the chances of waiting until the seventh month, in order to secure a viable child in any event. Both the greater difficulty of the operation, and the increased danger from septic infection and uterine hemorrhage, at a later period of gestation, must also be borne in mind in deciding the question whether it is wise to postpone the operation. For, after all, the mother's life is always the chief consideration. Tapping the cyst is not to be advised, even as a means of temporary benefit, except in cases where immediate relief from distention is called for, and ovariectomy cannot at once be performed.

CASE 34 was of particular interest because an exploratory incision had been made some time previously by another operator, who desisted because the adhesions were too extensive, so that the removal of the tumor seemed to him impossible. At first sight I was inclined to agree with him, but after ligating and severing a large number of adhesions to the omentum and anterior abdominal wall, I began to see my way to detaching the tumor, and after an hour or more of hard work, the intestine being largely adherent to the cyst-wall, I succeeded in removing the tumor, which weighed about ten pounds. It was adherent to the omentum, intestines, abdominal wall, bladder, and liver, and proved to be a dermoid cyst. The other ovary, enlarged to the size of a cocoanut, filled the pelvic cavity and was also removed. The patient made an easy recovery.

CASE 38 was a large hematoma of the left broad ligament, the sac of which tore while attempting to stitch it to the abdominal wound, and profuse hemorrhage ensued, requiring the enlargement of the incision and withdrawal of the intestines before the bleeding artery could be found; the hemorrhage was checked and a drainage tube introduced. Although my prognosis was unfavorable, the patient, to my surprise, did wonderfully well for six days; on the seventh day the drainage tube was removed; the patient began to complain of abdominal pain, looked badly, and the temperature rose. She died on the eleventh day, and the autopsy revealed a purulent peritonitis, undoubtedly of septic origin.

CASE 41 was in one respect the most interesting of the series, since it represents a third laparotomy for abdominal cyst in the same patient. The patient had been operated on in March, 1881, by Prof. Kuester, of Berlin, for an intra-ligamentous ovarian cyst of the left side; the right ovary at that time was found to be slightly cystic, and the cysts were punctured and cauterized with carbolic acid. In December of the same year, the patient reappeared with a second cyst springing from the right ovary, which was removed by the same operator. In May, 1887, she presented herself to me for a large ventral hernia of

which she wished to be relieved. I detected an abdominal cyst on the left side extending as high as the umbilicus. Aspiration gave a perfectly clear fluid which presented no characteristic appearances under the microscope. I did laparotomy, excised the redundant skin (fortunately there were no adhesions to the intestines or the tumor), opened the tumor, evacuated its contents, which proved to be colloid, and spiculæ of bone imbedded in its wall, and attempted to remove the whole mass. It was then found to be situated between the layers of the broad ligament and to extend down to the floor of the pelvis. I enucleated the whole sac of the tumor and stitched the edges of the enveloping broad ligament to the abdominal wound. The cavity was packed with iodoform gauze, which was changed every few days, the cavity being thoroughly irrigated and cleaned. The stitches were gradually removed, the cavity filled up, and after about three months was completely closed; the patient being cured both of her cyst and of her ventral hernia.

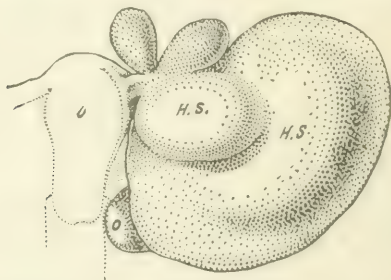
In CASE 47 the operation was performed on account of excessive pain. The small cyst (cocoanut) was found to have a pedicle twisted twice upon itself to the left. Rapid recovery.

CASE 48 was an unfortunate one, the incision being originally made for an exploratory purpose. The patient's abdomen was largely distended by ascitic fluid, but a vaginal examination showed the existence of some pelvic tumor which I suspected to be malignant. I found the left ovary to be a malignant papilloma with a pedicle, which I succeeded in ligating and searing without special trouble. Curious to see the condition of the right ovary, I lifted it up and found it to be of the size of a duck's egg and apparently cystic. I thought it would be easy to remove, and while drawing it up so as to be able to place a ligature around its pedicle, it suddenly broke (it was also malignant), and profuse hemorrhage took place which I arrested by ligatures with the greatest difficulty. I closed the abdominal wound and put in a drainage tube and sent the patient back to her bed. Just as I was concluding another laparotomy, the third on that day, I was notified that the patient was bleeding. I hastily finished the operation and proceeded to the previous case, reopened the abdomen, enlarged the incision, and withdrawing all the intestines, rapidly sought for and found the bleeding vessels, which were securely ligated and the wound closed again. The patient's pulse by this time was almost imperceptible, hence I at once directed transfusion with saline fluid (one per cent), which was performed by the house surgeon. Dr. Stark, in my presence, the result being a speedy return of the pulse and her return to a satisfactory condition, which continued until the following day, when she again began to fail. Transfusion was repeated, but without avail, for she died at the end of thirty hours.

Of the *salpingo-oöphorectomies* I will report in detail only three cases.

CASE 51 was, with one exception, the most marked case of pyo-salpinx which it has been my fortune to encounter. The right tube was distended to the size of a large sausage, was attached to the whole posterior surface of the uterus, and palpable through the vagina. The presence of pus had been recognized by aspiration per vaginam. The left ovary was changed into an abscess and was also removed. A drainage tube was introduced, and the patient made an uninterrupted recovery. (See Fig., case 51.)

CASE 53 was a large hemato-salpinx of the left side with universal adhesions, on detaching which the cyst ruptured. Copious irrigation with warm water of the peritoneal cavity was



Diagrammatic figure. Front view. *hs*, Hemato-salpinx; *o*, ovary; *u*, uterus.

practised, the cavity carefully sponged clean and dry, and the abdominal wound completely closed. Uninterrupted recovery.

CASE 59 was one of hematoma of both ovaries, which were enlarged to the size of an orange and completely adherent. On attempting to detach the adhesions, the sacs both ruptured and their grumous contents were discharged into the peritoneal cavity. Free warm irrigation was practised, a drainage tube introduced, and the patient recovered. (See Fig., case 59.)

In relation to these last cases I would make the remark that I have been at times disappointed in the information given me by repeated careful bi-manual examination as to the exact pathological condition of the uterine appendages. It is easy enough to recognize a distended or hypertrophied tube or a small ovarian cyst or a tube and ovary bound together as a distinct mass by adhesions, but it is exceedingly difficult, at times impossible even to the most practised touch, to decide whether the not enlarged ovaries and tubes are adherent to Douglas' pouch or not, or to distinguish a small flaccid cyst of the ovary or tube. The latter condition is no more distinguishable by the examining finger than would be a coil of intestine containing a moderate amount of fluid. Thus in case 59, I



utterly failed to feel the soft flaccid ovaries filled with fluid, and in another case, number 57, I was entirely unable to decide what the condition of the ovaries and tubes was until I had opened the abdominal cavity. The statement of Tait, therefore, that it is often impossible to make an exact diagnosis of these conditions before operation, is borne out to a certain extent by my experience. In such cases the indications for the operations will be based entirely upon the subjective symptoms, viz., pelvic pain, complained of by the patient.

One of the *oöphorectomies* was performed for symptoms which as yet are not thoroughly recognized as justifying this operation.

CASE 64.—The girl had been under the care of her family physician, a very intelligent practitioner, for several years for hystero-epileptiform seizures which she had had since the beginning of menstruation, in her fourteenth year. She had been subjected to all kinds of treatment, medicinal, electrical, and hygienic, without avail. She had consulted, a year previously, an eminent specialist who had advised removal of the ovaries. I saw her soon after and declined the operation until further efforts had been made to relieve her. Finally, no benefit having been obtained, after careful consultation with her physician, her relatives, and herself, an operation was decided upon. For several months after her recovery, her seizures markedly decreased; then they began to return, and when I last saw her, about ten months after the operation, the girl's condition was stated by her to be very much the same as before the operation.

It is my object, in relating these cases, to state *facts*; therefore I have no hesitation in reporting the want of success so far attained in this case. I am not without hope that ultimate complete benefit may be derived, but I think that this indication for *oöphorectomy* should be very carefully weighed.

CASE 65.—The other case of *oöphorectomy* was for severe pelvic pain produced by the pressure of an interstitial fibroid. There was no menorrhagia. The patient reported herself six months after operation as almost completely free from pain, and the tumor was found to have nearly disappeared.

I have done one other *oöphorectomy* for menorrhagia from fibroid, with complete success, the patient never menstruating again, and the tumor decreasing one-half within six months.

CASE 66.—The first *hysterectomy* was performed for a solid fibroid springing from the fundus uteri. The pedicle was encircled by an elastic ligature, transfixed by pins, and the tumor with the ovaries removed. The parietal peritoneum was stitched to the peritoneum of the stump which was cauterized with chloride of zinc

solution. The ligature was removed on the twelfth, the pins on the sixteenth day, and the patient returned home with the wound completely closed in the fourth week.

CASE 67.—The second hysterectomy was done for a subperitoneal fibroid weighing six and one-half pounds, which extended to the diaphragm on the right side, and dipped deep into the pelvis. Operation difficult. No pedicle. Pelvic portion had to be enucleated with fingers. The elastic ligature was employed, including both ovaries. Stump treated as in the previous case, but cauterized with the Paquelin tip.

Of the *exploratory incisions*,

CASE 68, the first was performed for ascites, the family physician of the patient having stated that he had tapped her some months previously and found a tumor in the lower part of the abdomen. On opening the abdominal cavity and inserting the fingers, I found a large papillomatous mass apparently including both ovaries and the uterus, and entirely irremovable. A portion of the growth was removed for microscopic examination and shown to be a papilloma and not malignant. The abdomen was closed, and the patient made a rapid recovery. The ascites began to reaccumulate within three weeks after the operation. Hence on November 3d (Case 71) I again operated on this woman and attempted to remove the tumor, but the adhesions were so extensive and the hemorrhage so profuse that I was compelled to desist. A drainage tube was inserted and removed on the sixth day. Sand-bag weighing 20 lb. on abdomen to arrest oozing. Easy recovery from operation.

CASE 69.—The second case was in a young lady whose mother had died of a supposed colloid cancer of the ovary some fifteen years before. The patient gave symptoms of pelvic peritonitis, developed ascites, and failed considerably in strength and flesh. Percussion revealed dulness in the left iliac fossa. An exploratory incision was considered the only means of making a diagnosis and giving her a chance of relief, and showed the cause of the ascites to be general tuberculosis of the mesentery, which was studded with innumerable small yellow nodules. Both tubes were somewhat enlarged, and, although they were not removed, were probably implicated in the tuberculous disease. In fact, judging from the recent observations by Hegar and others, I am inclined to believe that the origin of the tubercular infection came from the tube, since there was no tubercular history in the patient's family and the lungs were then healthy. For a time the patient's general condition improved, and there was no return of the ascites, but symptoms of pulmonary complication soon developed, and proved fatal on December 20th. Still, there are now a sufficient, if small, number of cases on record where the thorough emptying of the ascitic fluid by a free incision has greatly benefited the patient, and I should therefore consider presumptive tubercular peritonitis a valid indication for explorative laparotomy.

The third case, No. 70, was in a girl of 16 years, in whom the abdominal enlargement was so peculiarly situated that a suspicion



of hydatid degeneration of the liver was well justified. The abdominal enlargement was so great that the patient's heart and lungs were displaced and that she was cyanotic and was unable to rest in the recumbent position. The exploratory incision revealed merely ascites with here and there agglutinated coils of intestine and a large solid tumor of the liver, the nature of which could not be determined. The patient recovered entirely from the operation, but towards the end of a week developed symptoms of pleuropneumonia and accumulation of fluid in the pleural cavity. On aspiration, sixteen ounces of bloody serum were removed, but the patient died on the tenth day of the complication. I therefore have considered the case as one of recovery from the abdominal operation. An autopsy was not permitted.

The only laparotomy for intestinal obstruction which I have had occasion to perform was in a patient who heads the list in the table, upon whom I did ovariectomy during pregnancy.<sup>1</sup>

CASE 72.—Two days after delivery she again began to vomit, having been perfectly well and regular in her bowels since the operation. The abdomen also became tympanitic, and the bowels ceased to respond to enemata or laxatives. The vomiting continued, and on March 13th became feculent. I then saw her again with Dr. Benedict, diagnosed intestinal obstruction, and advised, if renewed attempts to move the bowels by large turpentine enemata failed, immediate laparotomy. To this latter advice they could not at once make up their minds, especially as there was a lull of a day or two in the vomiting. But finally, when it recommenced and was purely feculent, they consented, and on March 17th I operated, at a time when the patient's condition was so low as to leave very little hope of saving her. Much valuable time had unfortunately been lost. The intestines were enormously distended with gas, fully six feet of the small intestine was black, and I had no trouble in finding numerous adhesions. The main point of constriction, however, was in the right iliac fossa, where a firm band of the thickness of a lead-pencil almost completely constricted the gut. After tying and dividing all the constrictions and adhesions, some eight or ten in number, I returned the intestines to the abdominal cavity and closed the wound. The patient recovered consciousness and speech, but died sixteen hours later of exhaustion. I think she could have been saved if the operation had been done a week sooner.

The displacement of the intestines by the emptying of the uterus through delivery must, I think, in some way have led to a loop of small intestine passing under the constricting band. The danger of intestinal obstruction by adhesions or constricting bands after laparotomy is attracting more and more the attention of our laparotomists, and the prevention of

<sup>1</sup> Reported in N. Y. Med. Jour., Aug. 6th, 1887.

such adhesions is one of the problems still to be solved. By carefully replacing the omentum over the intestines, by early and regular intestinal evacuation after laparotomy, and perhaps by Peter Mueller's suggestion of applying carbolized oil or vaseline or iodoform to the pedicle and adhesion stumps just before closing the abdominal wound, such subsequent adhesions may possibly be prevented.

*Causes of Death.*—Of the seven deaths, three occurred in hopeless cases, numbers 48, 72, and 73, and should really not be counted in my statistics. The operation in these three cases was undertaken solely as a "forlorn hope," with but little chance of recovery. Of the five other deaths, four were from septic peritonitis, one of these being a suppurating cyst of the ovary with numerous adhesions and rupture of the cyst during its removal; the other three, intraligamentous cysts of the ovary; the fifth case of death was in a large double pyo-salpinx, with complete adhesions, rupture of sac during removal, and the fatal result appeared to be due to general septicemia. At all events, a reopening of the abdomen before death revealed no local cause for sepsis. It is apparent that all of these five deaths occurred in exceptionally difficult cases, where the possibility of septic infection was most imminent. I know no way of avoiding the occurrence of infection under similar circumstances but by the means always employed by me, viz., scrupulous cleanliness and exclusion of noxious material as far as in my power. I cannot help thinking that the drainage tube may, in at least the four cases of peritonitis, have acted rather as an irritant than as an agent of safety.

My sense of duty has impelled me never to refuse an operation where there was even the *slightest* chance of a successful result, and I have thus increased my percentage of mortality. But, by acting on this principle, I have saved several apparently hopeless cases. In reality only five deaths out of my forty-five operations this year should be credited to the operation itself and its subsequent dangers. In case 73, the abscess developed rapidly, and laparotomy was performed within eighteen hours after the abscess was discovered, too late, unfortunately, to save the patient, although saline transfusion was performed.

An interesting question, which may prove to be of some practical importance, was raised by Dr. James Barnesfather, of Dayton, Kentucky, on reading the report of my third case of

double ovariectomy during pregnancy, who wrote me asking whether I had ever heard of a case where both ovaries had been removed during pregnancy and the gestation continued. His argument was that, when both ovaries were gone, the expulsion of the contents of the uterus must inevitably follow. I replied that I was not aware of any literature on the subject, but that I could not see how the removal of a second ovary during pregnancy could influence the continuance of the pregnancy in any way except by the infliction of the additional wound to the uterine appendages; that I considered the question an interesting one and would suggest his sending his letter and my answer to the *New York Medical Journal*, in which the report of my three cases of ovariectomy during pregnancy had appeared, in the hope that some laparotomist might be able to throw light on the subject. (See *N. Y. Med. Journ.*, Sept. 24th, 1887.)

I have looked through the history of ovariectomy during pregnancy, but have failed to find a record of a case similar to my third one. Naturally, the occurrence of pregnancy during the existence of pronounced disease of both ovaries would be very exceptional.

Although the methods which I employed before, during, and after laparotomy may not differ essentially from those practised by other operators, I wish to put them on record, because I am often asked questions as to the details of my operations.

All the above operations which were not performed in private houses took place in the general operating room of Mt. Sinai Hospital, which is on the third floor, private rooms being on the second, and the general ward on the first floor. The private cases were then removed to separate rooms of their own and were placed in the care of special nurses. The charity cases were removed either to a separate room on the same floor as my ward and were also put under the care of a special nurse (thus in no way differing from the private cases); or, if the separate room was already occupied, they were put in the general ward, and the latter patients did in every respect as well as those who were in separate rooms. The private rooms at Mt. Sinai Hospital are sanitarily and hygienically as well appointed as those of any private hospital with which I am acquainted.

I think there is no question that the *very best possible* conditions for laparotomy, as for any other large operation, exist in *small* institutions, private or public, where such operations are of

every-day occurrence, and where operator, assistants, and nurses are thoroughly trained in that particular operation, and where the environment as regards operating-room, instruments, dressings, hygiene, etc., is always perfect. But there is also no doubt that, by scrupulous cleanliness and careful attention to all details, excellent results in laparotomy and other major operations can be obtained in large general hospitals. Laparotomy in private houses, while hygienically safe enough, is so troublesome to the surgeon in the matter of preparations and after-treatment, as not to be desirable except under special inducements.

(To be concluded.)

---

THE RELATIVE MERITS OF ELECTROLYSIS AND RAPID DILATATION IN THE TREATMENT OF STERILITY AND DYSMENORRHEA.<sup>1</sup>

BY

HENRY D. FRY, M.D.

Washington, D. C.

---

DURING recent years, increased attention has been given by the medical profession to the uses of electricity, and the employment of this agent has gradually passed from the hands of the charlatan to the neurologist, the therapist, the surgeon, and finally to the gynecologist and obstetrician.

Here again history repeats itself. Like so many of our most valuable therapeutical agents, it was appreciated and used by the ignorant classes long before the intelligent physician recognized its merits, and attempted to make a scientific application of its employment to the cure of disease.

At the eleventh annual meeting of the American Gynecological Society, held in Baltimore, September, 1886, three of the original papers read before that representative body related to the uses of electricity in this field of practice, and the President, in his annual address said: "The use of electricity as a therapeutical agent in gynecology is at last well established."

A glance at the current medical literature will reveal what a widespread interest is awakened in this subject.

Uterine fibroids, areolar hyperplasia, perimetrie exudations,

<sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, May 6th, 1887.

subinvolution, superinvolution, oöphoritis, pelvic neuralgias, amenorrhea, dysmenorrhea, and menorrhagia, are some of the affections that have been treated by this means. We recognize in the list, diseases not only markedly dissimilar, but some that have proved the most rebellious to all known methods of treatment.

The object of the present paper is to claim for electricity a superiority over other methods of treating contractions of the cervical canal.

I have selected as the subject under which to present these views that which forms the heading of my article, because the relief of sterility and dysmenorrhea is the ultimate aim of treatment, and because the title suggests the nature of the pathological conditions we attempt to remedy.

Sterility and dysmenorrhea due to constitutional causes, as well as local morbid conditions outside of the uterus, are consequently excluded from consideration.

The class of cases that more particularly interests us is the familiar one so often presented of the elongated or so-called *conical cervix*, with a pin-hole os. The cervical canal may be dilated by retained mucus, and there are usually present cervical and corporeal catarrh, anteflexion with consequent narrowing of the canal at the internal os, and often an atrophied state of the body or the mucus lining of the uterus. Contractions of the os or canal may likewise exist as the result of caustic applications and torsions, and sharp flexures of the body and neck.

Dysmenorrhea and sterility are the subjective symptoms. Comparatively speaking, we are called upon to treat the former less frequently than the sterility. Dysmenorrhea is more generally associated with the condition, but it is, as a rule, only the most exaggerated types that consent to be treated. The persistence of painful menstruation after marriage, with infecundity, finally lead the disappointed wife to seek relief.

It has been questioned whether contractions of the cervical canal can cause sterility. The spermatozoa, it is argued, being microscopical objects, can penetrate any degree of stenosis short of complete obstruction. Although this may be true so far as the contraction itself is concerned, we must take into consideration the influence exerted by accompanying pathological changes: changes dependent, in great part, upon the contraction, and which either destroy the movements of the spermatozoa or prevent their passage mechanically. In addition to

these chemical and mechanical obstacles to impregnation, some writers lay stress upon a third or physiological hindrance. In consequence of the diseased state of the cervix, it is unable properly to exert an *aspiratory force* which they believe materially assists conception. It is true that when the female experiences an orgasm, whether during coition or under venereal excitement, peristaltic contractions occur which are not limited to the uterus, but involve the vagina, and probably the tubes.

But I believe the experience of the majority of observers will lead them to coincide with the opinion that these movements have very little, if any, influence in promoting the act of conception. If fecundity were limited to, or were more common among, females who experience such sensations, it would present a strong argument in favor of the theory. This is not the case. How many women are there who have large families and who are perfectly indifferent to the advances of the male. Not only do they fail to derive any pleasurable sensations during coition, but some express absolute disgust for marital intercourse.

*They are perfectly passive and yet they conceive readily.*

Courty<sup>1</sup> upholds the importance of the aspiratory action of the uterus, and attempts to explain why conception takes place in such cases, as well as when women are raped or conceive while intoxicated, by stating that the movements are "involuntary and escape sensibility and perception." This explanation is purely conjectural and until facts can be brought forward to support the view, we decline to accept an hypothesis which is directly opposed to experience. It is more rational to believe that these movements are phenomena associated with the orgasm. The latter is the stimulus, and without it the movements are not set in operation any more than the machinery of a clock moves until the key has furnished the necessary motor power.

Courty<sup>2</sup> singularly commits himself by making the following statement: "I have mentioned the case of a lady on whom Koeberlé had operated (ablation of the uterus), but in whom he had unfortunately left the ovaries. A small fistula having persisted which formed a communication between the vagina and abdominal cavity, this unfortunate woman had an abdominal

<sup>1</sup> "Practical Treatise on Diseases of the Uterus," etc. P. Blakiston Son & Co., Philadelphia, 1883.

<sup>2</sup> Foot note, page 791.

pregnancy, a most remarkable occurrence, *showing the limited part which the uterus plays in the accomplishment of reproduction.*"

Writers seem disposed to credit to the genital organs of woman a sort of human intelligence which looks over and guides the performance of its physiological functions. This aspiration of the spermatozoa is only equalled by the wonderful power attributed to the fimbriated extremity of the Fallopian tube which, even yet, some writers describe as reaching over and grasping the ovary with its ripened Graafian follicle.

A diseased condition of the endometrium of the body of the uterus is another cause of sterility that comes within the scope of this paper for consideration. It fails to undergo those preparatory changes which in health take place monthly, and which are intended for the reception and custody of the ovum. Impregnation may occur, but sterility exists because the ovum is cast off.

The existence of an obstructive dysmenorrhea is a mooted question. It is sufficient for our present purposes to recognize that the relief of a contracted cervical canal is often followed by a cure of the dysmenorrhea.

We will not stop to consider whether the relief is due to the removal of an obstruction to the flow of menstrual discharge, or whether it acts indirectly by benefiting attendant morbid states.

Various operative procedures have been practised with the object in view of enlarging the canal, but none have yet proved sufficiently satisfactory to be indorsed by the profession as *the* operation for the relief of this condition. We find some who adhere to the practice of dilatation with tents, others advocate gradual dilatation with steel instruments, others again praise rapid or bloody dilatation, and still another class upholds the cutting operation.

The same objection that can be made against any one of these methods is applicable to them all. The tissues of the cervix show an obstinate tendency to contract again even after the most thorough dilatation. The immediate result of the operation may be good, but ultimately the canal contracts again and the dysmenorrhea returns. When, however, conception takes place, nature usually gives permanent relief.

Fortunately, the cutting operation is coming more and more



in disfavor. Besides being open to the same objections of its substitutes, there is an element of danger possessed by it far out of proportion to any ultimate superiority accompanying its use. A large number of cases operated upon by this method gives a mortality of 1 in every 300 cases. This shows only the fatal results. The number of women who are made invalids is far greater, and many of them pass from the hands of the enthusiastic operator with the *mental record*—"successful."

Specialists who blindly uphold any favorite line of treatment and struggle with it against the tide of popular disfavor, are slow to recognize the evils that result.

Rapid dilatation, though not free from danger, has so far superseded the other methods that I select it to represent the class and will compare its merits with those of electrolysis.

For the relief of sterility and dysmenorrhea the degree of dilatation demanded is not great; the objects chiefly sought are a moderate but *permanent* amount of dilatation.

These, I claim, are secured by electrolysis better than by any of the above-mentioned methods. The advantage of electrolysis compared with rapid dilatation are:

1st. *Its simplicity.* No anesthetics and no assistants are necessary. The treatment is carried out at the physician's office, and the patient is spared the mental suffering of having to undergo an operation. Many will consent to this method of treatment who will refuse harsher means.

Rapid dilatation, on the other hand, unless imperfectly done, requires anæsthesia; the patient must remain in bed several days, and precautionary measures must be adopted to prevent the development of inflammatory complications.

To say the least, it is a harsh method of treatment. Thomas, writing in 1879, styled it "shockingly brutal."

2d. *Its safety.* It is devoid of any danger unless imprudently used. The electrode is made to traverse the cervical canal slowly; it is arrested at the contracted portion until electrolytic action permits it to pass without the use of force.

By rapid dilatation some tearing of the cervical tissue is unavoidable. Inflammatory complications sometimes develop and these require after-treatment, which delays and occasionally terminates all efforts to cure the stenosis.

3d. *The result is better.* We must consider both the immediate and remote effects. The immediate effect is favorable



because the galvanic current is in itself a valuable therapeutic agent, and often suffices to cure attendant morbid states of the uterus. Neuralgic pains, uterine fixation and inflammation, hyperesthesia and atrophy of the mucous membrane often disappear without further treatment. The relief of dysmenorrhea follows. What proportion of the cases of sterility can be cured, is a question for the future to decide. I have recently treated a patient by this means who had been sterile for nine years. The external os was tightly contracted, the cervix long and conical in shape, the body anteflexed and the internal os constricted. Instead, however, of dysmenorrhea, there was very scanty menstruation—almost amenorrhea. Nothing but the local morbid conditions could be found at fault. A prominent physician had performed rapid dilatation some years ago, and she had taken no end of emmenagogue preparations without benefit.

I was consulted mainly on account of the scanty menstruation. Examination having revealed the condition described, I determined to employ electricity for its relief, as well as for that of the menstrual disorder.

The effect of the faradic current was promptly manifested by increased catamenial flow.

The galvanic current readily opened the cervical canal to the desired extent.

Six months after the patient had come under observation she was impregnated.

The success in this case can fairly be attributed to the use of electricity, as it was the only remedial agent employed, and it succeeded after failure of rapid dilatation and a generous internal medication.

But, to prove conclusively that the ultimate result of enlarging the cervical canal by electrolysis is superior to rapid dilatation, or any of its substitutes, is yet impossible, because there is lacking the important element of time. The treatment is new and the future holds in store absolute proof whether the result be permanent.

There are strong reasons, however, to encourage the belief that such is the case. Pathological strictures, no matter where located, manifest the same inherent tendency to contract after they have been cut or stretched. Electrolysis has proved a most valuable agent in the treatment of these contractions.

Strictures of the rectum, œsophagus, and male urethra have yielded so satisfactorily to its influence that a new field of treatment is opened for the relief of these intractable affections. We are largely indebted to Newman, of New York, for having shown its value in the management of strictures of the male urethra.

It is the value of this method of treatment, which has been demonstrated for the cure of strictures in various parts of the body, that suggests its application for the relief of stenosis of the cervical canal.

In addition to these affirmative clinical data, we can bring to bear upon the subject the knowledge we possess concerning the electrolytic decomposition of tissue.

Althaus has stated that no animal tissue can resist the disintegrating effect of electrolysis.

The rapidity of electrical separation of the elements of tissues depends not only upon the strength of current, but the amount of fluids present in the tissues.

The tissues are acted upon by the elements liberated and attracted to the poles—chlorine and acids to the positive, and alkalis to the negative. As the acids form combinations, the destructive effects of the positive electrode are less marked than those of the negative. The caustic action of the negative electrode resembles the effect of free alkalis: it leaves a cicatrix which is claimed to be soft, pliable, and non-retractile. The current must be localized to the tissues we wish to decompose.

For the permanent success of electrolytic treatment in the class of cases under consideration, weak currents are necessary. The minimum current that will accomplish the purpose is the proper current to use. We wish to avoid the caustic action, and obtain only the absorptive. We then have no cicatrix to undergo subsequent contraction.

Newman says (*Archives of Electrology and Neurology*, 1874, Vol. 1, p. 28) the word "absorption" is usually associated with the action of the lacteals. He employs the term as Webster defines it, viz., "The process or act of being made passively to disappear in some other substances through molecular or other invisible means, as the absorption of light, heat, electricity, etc."

Ranney (*New York Med. Journ.*, 1885, XLII., p. 142) states that "a feeble current tends to cause dilatation of the capillaries and the lymphatic vessels, and thus to aid in

absorption—a view which expresses in more scientific language the definition of the *absorptive* process.

METHOD OF APPLICATION.—In conclusion I desire briefly to state the method of practising this procedure.

Bimanual examination is first demanded in order to ascertain the condition of the pelvic organs—the size and position of the uterus, and the presence or absence of para- or peri-metritis.

The patient can be placed in the semi-prone position and the cervix brought in view with Sims' speculum, but ordinarily the dorsal position answers every purpose, while it has the advantage of permitting more readily the application of the external electrode. The bivalve or trivalve speculum is introduced, when the latter position is assumed, and the direction and course of the cervical canal explored with the sound. If the tenaculum is used, it must be only to *steady* the cervix. Force must not be employed either to hold down the uterus or to push up the electrode.

The positive electrode consists of a flat sponge about the size of the palm, and is placed either over the fundus uteri (when in normal position), or the patient may lie with it pressed against her spine at the lower lumbar or upper sacral regions.

The negative electrode which I have employed consists of an insulated copper wire with olive-shaped tips of different sizes. One of these, somewhat larger than the lumen of the strictured passage, is selected and screwed upon the extremity of the insulated wire. The circuit is completed when the olive tip comes in contact with the tissues of the cervix.

If the external os is the seat of contraction, the olive tip is held gently in contact with it a few minutes until absorption removes the obstruction and the electrode passes without forcible pressure. It is then carried slowly along the canal and through the internal os. If any obstruction in its passage is met with, the electrode must be held until the destructive effect of the current has overcome this likewise. At the next séance a larger size olive is passed in same manner, and so on until the requisite degree of enlargement is obtained. The sittings should last from eight to fifteen or twenty minutes, and the applications repeated every five or seven days.

A CASE OF ICTERUS INFANTUM FROM CONGENITAL DEFICIENCY OF THE DUCTUS COMMUNIS CHOLEDOCHUS.<sup>1</sup>

---

BY

JOHN BLAKE WHITE, M.D.,

Visiting Physician Charity Hospital, Consulting Physician House of Refuge, Randall's Island.

---

THE following case, which I saw in consultation with Dr. Henry Moffat, of Yonkers, I am prompted to report because of the infrequency of occurrence of such cases and the very interesting character of the symptoms that were presented while the case was under observation.

For the data from which my notes have been compiled I am indebted to Dr. Moffat.

Mrs. P. gave birth, June 9th, 1887, to her second child, which was well formed, of average weight, and to all outward appearances physically sound.

Her labor was natural in every particular and of short duration. Nothing occurred to mar the mother's convalescence, and, so far as the infant was concerned, everything progressed satisfactorily up to the sixth day after its birth. The cord separated on the fifth day, leaving a clean and healthy surface. Up to the sixth day the child had nursed, its other functions were performed naturally, and nothing unusual was observed except an icteric tendency, increasing.

On the seventh day (June 16th), the infant refused the breast and became irritable. Soon it had a slight convulsion, which recurred at intervals of a few hours. On the morning of the eighth day (June 17th) Dr. Moffat was summoned and found the infant in a tetanic condition, its respiration had ceased, face was purple, eyes and mouth tightly closed, the upper and lower extremities were rigidly flexed, and the trunk and head were in a condition of opisthotonos. This state lasted for about twenty seconds when the natural condition of things gradually returned, with the respiration nearly normal and the pulse 120. The abdomen was tense, tumefied, and tympanitic. An enema was given which resulted in the expulsion of considerable flatus and

<sup>1</sup> Read before the Section on Practice of Medicine, New York Academy of Medicine, Nov. 15th, 1887.

apparently afforded the child some relief. In spite of appropriate medication, there was no improvement, but on the following day (June 18th) the child's condition seemed much worse; the temperature was 100.6, pulse 120-140, and the respirations accelerated and shallow. The jaundice was pronounced, and the convulsions recurred more frequently and were more severe in character. The abdomen was still tense, tympanitic, and tender. This condition of things continued until next day, June 19th (the fourth day of the attack and the tenth day of the child's life), when I saw the case with Dr. Moffat. I found the temperature 101°, pulse 130-140, jaundice very pronounced, abdomen expanded, tympanitic, and tender; a marked tumefied appearance about the region of the liver was observed, and on examination this organ was found greatly enlarged and sensitive to manipulation.

The nurse was directed to apply turpentine stupes, and eight grains of calomel were given. Nourishment was regularly administered by the mouth and rectum when necessary. Three free discharges from the bowels resulted in the night from the dose of calomel, and the next morning the condition of the patient appeared better. Toward evening, however, the temperature increased to 103°, pulse remained at 140, and the convulsions recurred frequently. A dose of one grain of acetanilide reduced the temperature to 100° in a short time, but the convulsions did not abate. An interesting circumstance was the total arrest of respiration after the convulsive attacks and the promptness with which the respiration was restored by artificial aid. A small amount of chloroform controlled the convulsions, but had no influence in lessening the frequency of the attacks. This condition continued without change until June 21st P.M. (the fifth day from the attack and the twelfth day of birth), when the child died of exhaustion. The character of the affection presented so many features of interest as well as obscurity that a necropsy was obtained. On opening the abdomen, the intestines were found coated with recent lymph and in some places were adherent. The liver was found greatly enlarged and engorged, and the gall-bladder was filled with blackish bile of a syrupy consistency. The hepatic ducts presented no abnormal appearances, but there was an evident constriction of the cystic duct and the common duct was impervious throughout its length. In the place of this duct there existed a fibrous cord-like band extending to the duodenum. When the chest was opened, the left lung was found completely collapsed and hugging close to the side of the spinal column in the posterior aspect of the thorax; the right lung was found in a natural state, fully expanded.

The case seemed so unique I determined to look up the literature of the subject and was rewarded by finding a very few cases reported presenting similar conditions. Eighteen or

twenty cases of various malformations about the gall-bladder or the several ducts were collected, but these reported by Campbell, Danforth, Glaister, Legg, Thommear, Murchison, Donop, and Maxwell Adams presented symptoms and post-mortem appearances very much like the case here reported.

As the following cases bear a relation to the subject, I will refer to some interesting portions of their respective authors' accounts of them, and believe that by so doing it will help to complete the record of all duct malformations of this class which have thus far been published.

J. Glaister<sup>1</sup> reported a case of *icturus neonatorum* in which a congenital stricture of the ductus communis choledochus was found on post-mortem examination. Jaundice appeared on the second day after birth, and on the third day the child developed "catches," spasm of the throat and contortions of the face. The respiration was characteristically Cheyne-Stokes, the pulse was slow and weak, the belly was tumescent, the skin dry, and the facial contortions increased in frequency and severity until death. Post-mortem investigation revealed a stricture of the common duct; the lungs were healthy in texture, the right was atelectatic, the left fully expanded.

Dr. Waring-Curran<sup>2</sup> reported a case of jaundice caused by recognized presence of a congenital lesion—spasmodic stricture—supposed to have resulted from an injury to the head, but did not cause death.

Dr. Lotze<sup>3</sup> recites the details of a case of congenital malformation of the liver ducts verified by necropsy.

A case of obstruction caused by "indurated cord-like plug of inspissated bile" was observed by Murchison,<sup>4</sup> who also alluded to a case reported by Lieutaud, where the obstruction proved to be a gall stone. In his lectures on liver diseases, page 375, a case of jaundice is spoken of, resulting in death, accompanied by epistaxis and ecchymoses. The lesion on necropsy was an obliteration of the common bile duct with perihepatitis.

Dr. Binz, of Bonn,<sup>5</sup> details two cases occurring in the same family, of children with obliteration of the ducts, but having

<sup>1</sup> London Lancet, 1879, vol. i., p. 293.

<sup>2</sup> Med. Press and Circular, Sept. 9th, 1868.

<sup>3</sup> Berliner klinische Wochenschrift, No. 30.

<sup>4</sup> Northern Jour. Medicine.

<sup>5</sup> Virchow's Archives, vol. xxxv., p. 360.

a gall bladder. In a third case, perihepatitis, with almost complete obliteration of the gall ducts, existed.

Dr. Binz mentioned two other cases<sup>1</sup> in which there was a rudimentary gall bladder and no trace of the biliary duct appeared.

In an old dissertation by Donop,<sup>2</sup> reference is made to a case in which the common duct was impervious throughout its length. Dr. J. N. Danforth<sup>3</sup> met with a case of entire absence of the ductus communis choledochus. The child had jaundice thirty hours after birth. Sixty hours after birth it began to nurse fitfully, would seize the breast eagerly and immediately forsake it with disgust. It was very irritable. The skin assumed a bronzed appearance in the place of a yellowish-brown color. Frequent attacks of vomiting occurred, which increased in severity until seventy-two hours after birth, when convulsions supervened and the child died in a state of profound coma. The liver was found enlarged and greatly congested. The gall bladder, occupying its normal position, was very much distended with bile of the consistency of syrup.

The cystic and hepatic ducts presented no unusual appearance, but were slightly enlarged. The common duct was distended and presented an abrupt termination without reaching the intestinal canal. His report was concluded with the remark that he had failed to find a similar case on record, though he had examined authorities within reach very carefully.

A. D. Campbell<sup>4</sup> gave an account of "two cases of icterus gravis infantum from deficiency of the cystic and hepatic ducts and one from plugging of the common duct." In the first case, the gall bladder was quite small and collapsed, and contained a little mucus which resembled gelatin in color and consistency. The bladder formed a closed sac having no outlet; the excretory ducts leading from the gall bladder and the liver were absent. The patient died without coma or convulsions. The second case, on post-mortem examination, revealed neither a gall bladder nor bile ducts, the liver was very much

<sup>1</sup> Virchow's collected works, p. 858. Clinical observations of Romberg and Henneck, p. 138.

<sup>2</sup> De Ictero speciatem neonatorum, 1828.

<sup>3</sup> Chicago Med. Jour., 1870, p. 110.

<sup>4</sup> North. Jour. Med., Edin., p. 237, vol. i.



enlarged, the venæ portæ, hepatic artery, and hepatic veins were all perfectly normal. After living six months, the child died of an attack similar to cholera, having been affected with incessant vomiting of a coffee-ground material up to the time of its death.

A male infant in the practice of Dr. Maxwell Adams died, on the eleventh day after its birth, of an obscure affection. On the third day the child manifested icterus mitis, but there was no apparent derangement of any function. On the seventh day, some oozing took place from the navel. The cord had separated on the sixth day, leaving a clean, healthy surface. On the eighth day a slight hemorrhage occurred which was controlled easily by ordinary means. Oozing of blood continued on the tenth day, but was quite inconsiderable, and no symptom of fever, spasm, or debility was present. On the eleventh day, Dr. Adams was summoned hurriedly and on his arrival found the child dead. No alteration had taken place in the child's symptoms until shortly before its death, when it refused the breast and sank, gradually, into a comatose state, expiring almost imperceptibly.

No trace of sloughing of any vessels that entered the liver from the funis was found on post-mortem examination. The liver was congested, but there was no trace of disease about the navel to account for the cause of the hemorrhage. The gall bladder contained a quantity of bile, which found no exit on account of an "indurated cord-like plug" of inspissated bile occupying the duct leading to the duodenum. The umbilical vein contained a clot about an inch in length.

J. W. Legg<sup>1</sup> reported an interesting case of a child who lived eleven weeks, and finally died of convulsions, from which it suffered for three days. Soon after birth it became jaundiced, and this condition progressively increased to the time of the child's death. On post-mortem investigation, the gall bladder was found shrunken, and contained only a small amount of yellowish fluid. The cystic duct opened without any winding into a cyst the size of a marble, situated to the right of the portal fissure, between the liver and the duodenum. The same cyst received the hepatic duct from the liver, and proved to be a blind sac with no passage into the duodenum.

<sup>1</sup>Trans. Path. Soc., London, 1876, xxvii., p. 178.



Numeley's<sup>1</sup> case of congenital obliteration of the hepatic ducts lived almost seven months. The child was admitted at the Children's Hospital suffering from jaundice, which had existed from its birth. A post-mortem revealed a small amount of yellowish serum in the abdominal cavity, but no peritoneal adhesions or recent lymph exudations were observed. The liver was firm, of a dark, blackish-green color. The orifices of the biliary ducts were not obvious when cut. The gall bladder was contracted, and contained only a little mucus.

D. Wilks<sup>2</sup> reported a case of obliteration of both cystic and hepatic ducts; the child lived six weeks.

Thommean<sup>3</sup> had a case of an infant that lived three months with an imperforate duct.

J. H. Morgan<sup>4</sup> reported a case of congenital malformation of the ductus communis choledochus.

Other malformations have been reported by Corrigan,<sup>5</sup> of a gall bladder communicating with the stomach, and cancerous tubercles about the pylorus. Freund,<sup>6</sup> "Ein Fall von congenitaler interstitieller Hepatitis mit Anomalie der Gallenausführungsgänge."

W. Gruber,<sup>7</sup> "Ein gabelförmig gespaltenen Gallenblasenausgang. Ductus cysticus bifurcatus."

Herschel,<sup>8</sup> "Vollständiger Defect der Gallenwege beobachtet an einen 7-Monate alt verstorbenen weiblichen Kinde."

The above are all the cases of malformation of the liver ducts or gall bladder which I have been able to find recorded.

Whether or not the anomalies discussed are as rare as these few cases would naturally lead us to suppose, it is not possible to say. No doubt exists, I may say, that some cases are overlooked by the failure to procure autopsies of infants dying in a jaundiced condition soon after birth.

With regard to the case I have reported, the family history was good, and we have no theory to offer as to the cause of the phenomenon represented. I will add that the mother informed

<sup>1</sup> Trans. Path. Soc., London, 1872, xxiii., p. 152.

<sup>2</sup> Trans. Path. Soc., London, xiii., p. 119.

<sup>3</sup> Bull. Soc. Anat. de Paris, 1842, xvii., p. 52.

<sup>4</sup> Trans. Path. Soc., London, 1878, xxix., p. 137.

<sup>5</sup> Dublin Jour. Med., 1843.

<sup>6</sup> Jahrb. für Kinderh., Leipzig, 1875.

<sup>7</sup> Arch. für Path. Anat., Berlin, 1875.

<sup>8</sup> Wien. Med. Wochensch., 1865.

me that she was apprehensive during her puerperal period lest some harm should come to her or the child. The anxious state of her mind was occasioned by the loss of her first child, when a few months old, under very sad circumstances. Her mother also lost her two first-born in early infancy, one of them having died with symptoms of cholera infantum and jaundice.

These facts may be only coincidences in connection with the circumstances of the case herewith reported, but they will afford, nevertheless, a fruitful field for reflection with those who believe in the influence of external impressions on the production and development of fetal life.

941 MADISON AVENUE.

---

#### BRONCHITIS IN CHILDREN.

BY

THOMAS D. SWIFT, M.D.,

New York.

---

LIKE nearly all diseases common to both infancy and childhood on the one hand and adult life on the other, bronchitis presents points of difference in symptoms and clinical history due apparently only to the difference in age, and independently of pathological differences. By this is meant that simple acute and subacute bronchitis act differently according to the age of the patient, irrespective of the absolute degree and amount of the inflammatory process. Furthermore, reference is not made in the above remark to the more violent and dangerous form of the disease, involving the finest subdivisions of the bronchial tubes, and affecting the very young or the very old, recognized under the separate designation of capillary bronchitis. It is often not easy to reach a perfect conclusion in diagnosis between the two conditions, capillary and simple acute bronchitis; but if we find existing numerous and very fine râles heard over both sides behind, and mainly, if not entirely, with inspiration, and if the dyspnea is very great, causing cyanosis, we can fairly pronounce the case to be one of the capillary variety. Yet the

dividing line is not clearly marked, and the conditions may co-exist or overlap.

Limiting our attention at present to simple acute and subacute bronchitis, we may observe, in the first place, that this division of degree indicated in the names is marked by greatly more decided differences in symptoms and in indications of general severity of sickness among young children than in adults. With the latter, an acute attack presents usually a more frequent cough, a greater amount of pain in the chest, occasionally some fever, and the discomfort due to a pronounced cold in the head; but it does not often happen that an adult feels sufficiently sick from this cause alone to stay in bed. Little children will, on the contrary, present a higher temperature range, a respiration greatly increased in frequency, a cough of great violence and frequency, great unwillingness to eat, and a condition of prostration sufficient to alarm the parents and to cause the physician strongly to suspect the existence of capillary bronchitis or broncho-pneumonia. With these indications of grave sickness, the physical examination will reveal but few râles, and one day only, or two at the most, will bring about so marked an improvement and such complete relief from the serious symptoms that any uncertainty as to the diagnosis is entirely removed, and the conclusion is reached that simple bronchitis only was present. The writer has seen five or six such cases recently in children from 2 to 5 years of age; the temperature reaching  $102^{\circ}$  or thereabouts, the respiration being 50 or 60 to the minute, the cough almost incessant, and the prostration being about as great as in cases where the physical signs showed the presence of a large amount of consolidation. The dyspnea was great, and the little "catching" noise described as grunting on expiration was also present in some degree; and the movements of the *alæ nasi* were observable. Yet careful auscultation and percussion made it certain that no consolidation existed, and the scarcity, as well as the rather coarse than fine character of the râles, pointed away from true capillary implication, and the dyspnea did not reach the point of producing cyanosis. A single day sufficed to change the entire aspect of things—the temperature and respiration falling to nearly normal, the dyspnea and cough being almost gone, and the general condition being only that of mild subacute bronchitis. Cases like this, occurring not very infrequently, enable us to

constitute them into a special *class*, presenting, as stated, severity out of proportion to the disease, and not having a parallel in adults. A prominent feature of these acute cases is the small amount of secretion of mucus in the bronchial tubes. The inflammation does not seem to reach a stage when the production of mucus or muco-pus amounts to much. The cough, almost incessant as it often is, is irritative in character, and this fact is strongly suggestive in the matter of treatment.

The diagnosis of this acute and severe form presents difficulties. Pneumonia is at once suggested on seeing such a case, and can only be absolutely excluded by the non-appearance of the physical signs of consolidation within twenty-four hours or so, and, on the contrary, the great improvement occurring in that time. Therefore, practically at least, that delay must often be made. From pronounced capillary bronchitis, discrimination is to be based on the two points already mentioned, the character and number of the râles audible, and the absence of dyspnea great enough to cause cyanosis. This is often uncertain, and the probability is that the two conditions often co-exist, and it is simply a question of preponderance of one or the other.

In cases such as these, and in acute cases of less severity, we are impressed by the great susceptibility to remedial measures. Simple emetics, such as the yellow sulphate of mercury, afford great relief to the dyspnea; and as little children never, or rarely, expectorate with acts of coughing, that of vomiting itself seems to be a substitute for expectoration, and manifestly clears the breathing space of what accumulation of mucus there may be. It is presumable also that simple emesis diminishes the condition of swelling and congestion. Sedatives, preferably the camphorated tincture of opium, also afford remarkable relief in the matter of the frequency and severity of the cough. Nauseants, as ipecac, accomplish much more than in adults. In addition, counter-irritation, by means of mustard with flax-seed poultices, will often produce the most gratifying amelioration. Sometimes two or three hours of their use will cause to vanish a distressingly labored respiration and constant cough.

Of course, the main practical point in these cases lies in the very different prognosis from that of pneumonic consolidation or of capillary bronchitis. It is highly improbable that a child

with simple bronchitis, however severe, will do otherwise than recover.

With regard to the subacute variety of bronchitis, by far the most frequent of children's diseases, the differences consequent on age are less pronounced. An average case will present the same loose-sounding cough, with little or no disturbance of general health otherwise, that is so commonly seen in adults. A noticeable peculiarity, however, of this cough is that it is apt to be much more troublesome at night than in the daytime. The horizontal position with children seems to cause greater interference with respiration, and to excite more frequent attacks of coughing. Parents will almost always say that the cough is worse at night. Through the day, the cough often assumes a paroxysmal character, strongly suggestive of whooping-cough minus the whoop; and the writer has found this tendency to night-cough a valuable point of differential diagnosis in doubtful cases, as it is not present in the latter disease.

There is further one aspect which forces itself upon our notice—that bronchitis in this degree is often nothing more than an indication of a general condition of the individual below par. Children under bad hygienic conditions as to fresh air, nourishment, and proper clothing, living in tenement houses, are with astonishing frequency the subjects of this slight condition of bronchitis. The causative relation between this poor general condition and chronic inflammation, with enlargement of the tonsils, is widely recognized, and it would seem that a subacute bronchitis is a part also of the same sequence of events. In pronounced or aggravated instances, which we call the "strumous" condition, the mucous membranes of the entire digestive, as well as of the respiratory tract, present this state of chronic catarrhal inflammation in some degree.

It is at once clear that subacute bronchitis having this causation is a very different affair from an acute sthenic inflammation with fever, and due to exposure to cold or wet. Of course, this rule does not cover all the cases; but even where the surroundings and other conditions are favorable, the bronchial trouble is asthenic in nature, and may often be assigned to a run-down condition.

These cases are not generally benefited by emetics or other cough medicines. Stimulant expectorants do not avail, nor

does counter-irritation accomplish much—the cough remains unaffected.

Means addressed to the improvement of the general conditions, included practically in the giving of food of proper quality and quantity, and in the temporary, at least, removal to the country or sea air, will take hold at once, and oftentimes a few days will bring about a complete removal of the bronchial part of the difficulty. If these means be available for a few weeks or months, we can expect to produce an entire change of the conditions, so that the manifestations do not return.

Next in importance stands the administration of cod-liver oil. To give one or two teaspoonfuls of an emulsion containing fifty per cent of the oil, three or four times a day, according to age and ability to digest it, will often produce considerable improvement in a few days, and sometimes a complete cure in one or two weeks. To bring about this result in a case of many weeks' standing, and one which has resisted entirely the other ordinary means of counter-irritation and expectorant remedies, is very satisfactory. It is apparent that the cod liver oil only acts by improving the general condition; yet the good effect is so decided and rapid that we may almost regard it as a specific in subacute bronchitis.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

---

*Stated Meeting, November 15th, 1887.*

*The President, DR. H. T. HANKS, in the Chair.*

### TRACHELORRHAPHY SCISSORS.

THE PRESIDENT showed a pair of strong curved scissors with blunt points, ground in such a manner that the blades meet and begin to cut *first* at the very end or distal extremity. The figure shows quite clearly the edges of the blades ground so that there is an elongated diamond-shaped opening between them when they are about to be closed. It will be noticed that, when the blades are approaching, it is quite impossible for the tissue to retract or

slide away from the scissors. On using these scissors, it is found that they cut their way quickly into the most dense and most decidedly cicatricial tissue. These shown are bent and ground with special reference for use in Dr. Emmet's operation on the cervix. They will take the place of the very excellent tenaculum-pointed scissors of Dr. Dawson. The instrument here shown cuts with even less effort, does its work more exactly than the Dawson instrument, and leaves less unevenness after completion, as it is sure of cutting all the tissues between the blades.



It is made by the old firm of Tiemann & Co., and is not expensive.

FETUS AT TERM, WITH CONGENITAL HERNIA OF THE ABDOMINAL VISCERA AND LEFT LUNG, LACK OF DEVELOPMENT OF A PORTION OF THE ABDOMINAL WALL, AND COMPLETE RIGHT LATERAL CURVATURE OF THE SPINE.

DR. JACOBUS presented the specimen with the following history: The mother was a primipara, aged 24 years, and in good health.

The patient had been induced to take long, daily walks since the beginning of pregnancy. She "suffered throughout from nausea and a feeling as though something was pressing up her stomach." During the last month she experienced severe but intermittent pain in the right uterine region. There was no history of maternal impressions, or of malformations, in the families of either parent. On Sept. 15th, 1887, at 5 A.M., the membranes ruptured suddenly, but pains did not set in until fourteen hours later, though water, accompanied by blood, clots, and feces, continued to flow at intervals during the day. When called at 8 P.M., an examination revealed a transverse presentation with a peculiar mass or sac and the left arm protruding from a fully dilated cervix. This mass felt something like a detached placenta, presenting with some fluid, in a portion of the amnion. Its attachment could not be made out.

Podalic version was performed, under chloroform, after much difficulty, owing to the contracted uterus; this caused the sac to be ruptured. During the delivery of the body, the fetal intestines and liver also presented, and interfered with the delivery of the



shoulders. The placenta and cord, which were normal, came away readily.

Inspection of the fetus, after birth, revealed a ruptured, translucent sac, about the size of a pint measure, attached around the border of an opening (nearly three inches in diameter) in the left abdominal wall, and also complete right lateral curvature of the spine.

The latter was probably due to the transverse presentation and visceral hernia.

The intestines, stomach, liver, left kidney, spleen, and a portion of the uterus were entirely outside of the abdomen and within the sac previously mentioned. The diaphragm was absent on the left side, and the left lung protruded through the opening.

The heart was displaced centrally, below the xiphoid cartilage, but was covered by integument.

The child had been very active up to about nine hours before delivery (*i. e.*, 3 P.M.), and probably died about that time. The head was of the average size, but the fetus, nine hours after birth, only weighed four and one-half pounds.

The case was interesting owing to the difficult diagnosis and delivery, and the rare and extensive malformations or herniæ.

THE PRESIDENT questioned if such a condition of the spine was often found in the fetus *in utero*.

DR. McLEAN believed the condition to be a very rare one.

DR. ABBOTT asked if the fetal heart had ever been obtained, and DR. GRANDIN inquired if abdominal palpation had led to any suspicion of the deformity.

DR. JACOBUS replied that he had not seen the patient in time to palpate the abdomen, and that he had not obtained the fetal heart, since fetal death had occurred before he was sent for.

#### PLACENTA RETAINED FOR NINE WEEKS AFTER MISCARRIAGE AT THREE AND A HALF MONTHS.

DR. McLEAN presented the specimen which had been expelled from a patient who had consulted him three days previously on account of metrorrhagia. She had stated that she had miscarried in September, and that her family physician was of the opinion that the act had been a complete one. On examination he had found a large, soft uterus, with patulous os, from which a slight flow of blood was occurring. He had ordered ergot, and two days thereafter the specimen had been expelled.]

THE PRESIDENT stated that he had never seen a placenta retain its shape so well after such protracted retention.

DR. JANVRIN referred to a case which he had seen about nine years previously with the late Dr. Hudson. The patient had miscarried at three and one-half months, and it was supposed that the secundines and placenta had been shed. She continued to flow, however, and sent for Dr. Hudson, who, finding the uterus large, had asked the speaker to see the case. He had dilated the



cervix, and in forty-eight hours the placenta had been passed entire.

THE PRESIDENT remarked that instances such as these evidently spoke against immediate removal, since they proved that in some women the placenta might be retained without injury.

DR. GRANDIN thought that such instances should be considered very exceptional. In the vast majority of cases, the woman's safety was best assured by thoroughly emptying the uterus. This belief was strongly impressed upon him by the frequency with which, in dispensary practice, he was called upon to remove portions of secundines and placenta, the retention of which was the cause of more or less profuse hemorrhage, and even of slight sepsis. By the immediate removal we guarded against these possibilities.

DR. McLEAN said that in cases similar to the one he had reported, the safeguard against sepsis was the fact that the placenta retained its connection with the uterus. Putrid discharge should, of course, call for intervention.

DR. HUNTER was in favor of removal, since he not infrequently saw cases where an obscure hemorrhage was dependent on retention.

DR. B. EMMET stated that he would always advocate immediate removal of a retained placenta.

THE PRESIDENT said that he did not wish to imply that he would not follow the same rule. He would not, however, insist on immediate removal as urgently to-day as was formerly his custom, in instances where there were no symptoms calling for active measures. In instituting the expectant treatment, however, he would always desire to keep the patient under his own observation or of that of some one in whom he had confidence.

DR. BOLDT was an advocate of immediate removal. In his experience, sepsis was more likely to result if the retained mass were small, and hemorrhage if it were large.

DR. B. EMMET considered it an interesting point for discussion as to how far we were justified in using the curette if the fingers or forceps failed. After the use of active measures, the cavity should always be wiped out with iodine as an antiseptic measure, after having washed out the uterus with hot water.

DR. BOLDT said that, in using the curette, rather than exert much force, he preferred, if at the first attempt he failed in removing all of the retained mass, to desist, and repeat the curetting after a few days' interval.

DR. McLEAN said that in his experience the vaginal tampon was an excellent means of causing the expulsion of the retained secundines.

DR. JANVRIN stated that he had frequently seen the same result, the tampon causing the uterus to contract. He believed in removal by the curette if possible; if not, he washed out the uterine cavity with a carbolyzed solution, applied the tampon in case there were hemorrhage, and after an interval resorted to the curette again. He had twice in the same woman, aborting each time at the third month, removed the placenta with the large dull curette. About one year ago he had been consulted by a lady from Chicago, who told him that she had miscarried at the third month, about four months previously, and since had been subject to irregular hemorrhages. On examination, he had found

the right horn of the uterus somewhat larger than the left, had dilated under ether, and removed from this horn a piece of placenta the size of the thumb.

[MULTILOCULAR COLLOID CYST.

DR. HUNTER presented the specimen, which he had removed two days previously from a woman 31 years of age, married, but sterile. On examination, the tumor had simulated an enlarged spleen. The patient had been seen by a number of gentlemen, and various diagnoses had been made. The operation was very difficult, owing to the universal adhesions and the consequent trouble in getting into the pelvic cavity. As he was able to thoroughly cleanse the peritoneal cavity, he had not inserted a drainage tube. The patient was doing well.

FIBROID WEIGHING ONE HUNDRED AND FORTY POUNDS.

DR. Hunter also presented an enormous fibroid, removed post-mortem by Dr. S. H. Hunt, of Long Branch, from a single woman 53 years of age. The woman's weight, without the tumor, was ninety-five pounds. The abdominal girth had been six feet and two inches. The patient had never suffered from hemorrhages, but only from pressure symptoms. The cause of death was exhaustion, the result of repeated attacks of intermittent fever. The patient had been seen by Washington Atlee, twenty-one years ago, and the tumor pronounced a fibrocyst of the uterus. The length of the tumor when removed was four feet and seven inches.

In reference to the first case, DR. B. EMMET said he was surprised to hear Dr. Hunter state that he had not used drainage, as he had been under the impression that he advocated it in instances where there were many adhesions, and where, as in this case, colloid material had escaped into the peritoneal cavity.

DR. HUNTER replied that in general he would favor drainage in such cases, provided he was unable to thoroughly dry the peritoneal cavity. In this case, he had at first placed a drainage tube, but on second thoughts had removed it, since there was no oozing whatsoever.

DR. MUNDÉ stated that whenever possible he much preferred to dispense with the drainage tube, even in cases where the cyst had ruptured. He always felt easier about his patient if she were not wearing a tube. Nowadays, in cases where formerly he would have used the tube, if he could thoroughly cleanse and dry the peritoneal cavity, he would not insert it. He had recently used the tube in a case where the cyst had ruptured, and there was considerable hemorrhage. For twenty-four hours there was considerable oozing, but there was no rise of temperature, and he had removed the tube on the sixth day.

DR. FREEMAN stated that last June he had removed a fibroid weighing fifty-one pounds. The patient, however, never rallied from the shock.

DR. BOLDT expressed his aversion to the drainage tube. He had formerly used it, but occasionally lost his patient. And, even

if there were oozing, in case it were not too profuse, he would not insert a tube. A short time ago, he had removed a suppurating cyst which ruptured in the abdominal cavity. Prior to operation, the patient had been seen by Dr. Martin, of Berlin, who counselled against removal by laparotomy, owing to the dense and extensive adhesions, and advocated aspiration, followed, if necessary, by incision by the vagina, and drainage. The cyst was aspirated twice, but the patient grew steadily worse, and he had resorted to the radical operation. The adhesions were extensive, and the patient was septic. He had thoroughly washed out the cavity, had not inserted a tube, and the patient recovered. He recalled instances of rupture of a pyo-salpinx prior to and also some during operation, where he had drained, and the patients had died, and, on the other hand, cases where he had not drained, and the patients had recovered.

DR. B. EMMET was opposed to the use of the tube as a rule. He recalled the fact that, at a meeting of the Society held two years previously, when the subject was very thoroughly discussed, he was about the only one who did not favor the use of this instrument, and he was pleased to learn that more of the members were now adopting the same view.

DR. HUNTER said that he did not think that a general law could be formulated. In his own practice, if there was much oozing he inserted a tube. He did not, however, fear colloid material as much as formerly. In answer to Dr. B. Emmet's question, if he thought it safe to leave colloid matter in the peritoneal cavity, Dr. Hunter replied in the negative, and stated that he always endeavored to wash it out, and to thoroughly cleanse the cavity.

DR. MUNDÉ recalled the fact that after forty-eight hours a wall of lymph was formed around the tube, shutting off the abdominal cavity, and that, therefore, after this interval, the tube might be removed.

#### MYXO-FIBROMA OF THE ENDOMETRIUM.

DR. MUNDÉ presented the specimen removed from a patient 45 years of age, who consulted him on account of hemorrhage which had lasted for several weeks. She stated that nine years previously Dr. Thomas had removed a small polyp. On examination, he had found a mass projecting from the cervix, bluish and friable. He had cut it off with the scissors, and had then found the uterine cavity filled with the mass. He had removed it peacefully with the sharp curette, and had tamponed the cavity with iron cotton. He had submitted the specimen to Dr. Heitzman, who had pronounced it a myxo-fibroma, and liable to recur. The specimen was of interest on account of its rarity.

DR. J. N. FREEMAN read a paper entitled

#### NOTE ON THE USE OF GELSEMIN IN OBSTETRICS AND DISEASES OF CHILDREN.

In the practice of medicine there is a strong tendency to fall into ruts and make a few remedies do duty on all occasions. Not long since I heard an esteemed practitioner say that he could get

along very well with calomel, opium, and quinine. We are apt to rely on the few remedies that have done us good service and ignore many agents that would be of value to us in emergencies.

One of these remedies, too little appreciated, I wish to bring to your notice. Gelsemium, or as it was until recently written, gelseminum sempervirens, the so-called yellow jessamine which adds such a beautiful feature in the landscape of the Southern States, has been used as a medicine, at first by irregulars, for the past thirty-five or forty years, its properties having been discovered by chance by a planter in Mississippi who took a decoction of the roots by mistake for another plant, and was cured of a severe fever. It was afterward used as a principal ingredient in a secret nostrum as a specific for fevers.

It was brought to my notice when I commenced practice in Illinois in 1857, and from that day to this has always been kept in my pocket medicine case, and frequently used. And yet it seems to be so little known as scarcely to be mentioned in our text-books. But in the medical journals of the last thirty years I find many references to it, and from 1873 to 1878 its physiological effects were pretty thoroughly discussed in the London *Lancet* in the valuable experiments by Ringer and Murrell, supplementing those of Roberts Bartholow in the *Practitioner* for 1870.

The results of a full dose taken into the system are noticed in about half an hour: first dimness of vision or double vision and drooping of the eye-lids and a feeling of languor, and if the dose be increased these symptoms are intensified and complete muscular relaxation ensues. The pupils are dilated but respond to the light; the breathing becomes slower and gasping, and if the dose be lethal, death occurs [from failure of respiration. It does not produce nausea. The mind remains clear to the last.

I have seen two cases of fatal poisoning with this medicine. The first occurred in Morris, Ill., in 1860. A boy three years old took by mistake about fifty minims of the tincture (four ounces of the root to a pint of alcohol) and died in two hours. The first symptoms noticed were double vision, of which he complained while sitting at the table at dinner, then inability to walk and complete relaxation and failure of respiration.

The other case occurred in Brooklyn in April, 1873. A boy three years old, not ill enough to be in bed, was ordered a mixture containing ten grains of quinine and one drachm of tincture of gelsemium and five drachms of syrup; a teaspoonful to be taken every two hours. After the first dose he became prostrated and staggered in his gait, but no alarm was excited until after he had taken the second dose. I was called to see him half an hour after the second dose and found him with all the muscles relaxed, pupils dilated, froth at the mouth, heart beating feebly and slowly, pulse imperceptible at the wrist, slow breathing and

unable to swallow. He rallied slightly after stimulating enemata but ceased to breathe in half an hour after I first saw him.

Several other cases of poisoning have been reported, but the symptoms are the same in all: complete muscular relaxation, the mind remaining clear, and death from failure of respiration. There is no positive antidote for poisoning with this drug, though strychnine seems to antagonize it and comes nearer filling that position than any other remedy. Other drugs that have been used and proposed as antidotes are coffee, alcohol, opium, belladonna, and ammonia. Emetics are useless after the poison has taken effect, for they will not act. As the respiration fails before the heart ceases to act, artificial respiration kept up until the poison is eliminated offers the best chance of saving life. Ringer and Murrell, in their experiments with rabbits and dogs, opened the trachea and inflated the lungs with a bellows, and thus constantly saved their lives after lethal doses had been given. I am not aware that this has been done on the human subject, but it would seem to be feasible.

The fatal cases that have been reported teach the power of this drug and the danger of its careless use, but are no argument against its intelligent administration any more than the many deaths from opium should make us abandon the use of that invaluable medicine.

Gelsemium was first used in the South and West in treating the severe forms of intermittent and remittent fevers that abound in those regions, and was often successful in breaking them up without the aid of any other remedy, but was more commonly combined with quinine. It was soon found to have many other valuable qualities, especially anodyne and antispasmodic, and these, with its powers as an antiphlogistic, make it peculiarly valuable in the irritable and inflammatory diseases to which children are so liable. In the intermittent fevers of children involving the nervous system and producing convulsions, I have used it with success. In the beginning of the attack it may be used alone or combined with the endermic use of oleate of quinine, and when convulsions are developed it will control them often as if by magic. Where the pulse is rapid, as is usually the case, it is better to combine it with *veratrum viride*. I have used this combination in many cases of convulsions of children with entire success. The nervous erethism is more certainly controlled by gelsemium than by any other remedy we possess. In the tetanus of the newborn, its soothing and antispasmodic action has often saved lives that would otherwise have been lost. In meningitis of children it has proved of great service. In the fevers of dentition I rely upon it, either alone or in combination with other remedies.

For chorea, it is the remedy par excellence. Within the past

fortnight, I have used it in two cases: one a girl of 8 years, who has suffered from chorea for several months; of late it was becoming rapidly more severe, in spite of orthodox treatment. November 5th she began taking one-tenth grain of gelsemin, in tablet triturates, every two hours. I saw her again on the 12th, after she had taken forty doses, and found her nearly free from the irregular movements, sleeping well, and vastly improved in every way.

The other case was a boy of 10 years, who had been suffering from the irregular and involuntary twitchings for two weeks. November 8th he was given gelsemin one-tenth grain every two hours. He sleeps well and is much improved, but not to the same extent as the last case.

In the dysenteries of children, especially when there is much tenesmus, it gives great satisfaction. Used in infantile rheumatism, it relieves pain, and subdues the fever and inflammation.

I have used gelsemium many years in obstetric practice to control those irregular pains that wear out the patient before labor begins in earnest. In such cases, a full dose of gelsemium will act like a charm, quieting not only the pains, but the restlessness, and giving a feeling of comfort until the regular pains commence. Here it is superior to opium, which is so often used, and has none of its unpleasant after-effects.

In cases of rigid os, it acts promptly and efficiently, relaxing not only the os uteri, but the vaginal outlet as well, and without interfering with, but rather giving tone and steadiness to the regular labor pains. It is in these cases of rigid os, and unrelaxed cervix, and when the text-books advise anointing the os with belladonna, and when laceration is so liable to occur, that gelsemium is peculiarly appropriate. If this remedy were more often used in labor, in cases of rigid os, there would be fewer cases of lacerated cervix. For after-pains it is our best remedy.

In those cases of ovarian and uterine neuralgia where we can find no organic disease, and in those cases where the disease is not serious enough to warrant surgical interference, this remedy, either alone or combined with *cannabis indica*, will render good service. And in those cases of dysmenorrhea where the surgeon is helpless to relieve except by removing the ovaries, and where the patient, worn out by her constantly recurring distress, is driven to despair or to the habitual use of opium, which is worse, gelsemium offers us another means of relief that is often successful. Its judicious use will cure many of these cases, and relieve many others.

In menorrhagia it has been used with benefit. For leucorrhœa it has long been held in high repute by many practitioners.

For hysteria, I prefer it to any other remedy; and for the large class of irritable nervous women subject to the blues and



hypochondria, it will clear the atmosphere as nothing else will. It has been successfully used to relieve cramps, vertigo, and wakefulness during gestation.

I have been in the habit of using the tincture in doses of from five to thirty minims for an adult, every two hours, and increasing to one fluidrachm, unless the peculiar effects are produced by a less dose. Of late I am using the tablet triturates of gelsemin, on account of the convenience of carrying, and have found them reliable and satisfactory. Three years ago, I gave to a man, of about 50, and weighing over two hundred pounds, one-quarter-grain doses of gelsemin, in tablet triturates, every two hours, and after the third dose he complained of double vision and difficulty in walking.

It is well to commence with small doses, on account of the susceptibility of some patients, and then increase until the physiological effects are produced, or the desired result is accomplished. In small doses, it is tonic and stimulating to the nervous system, while in large doses it is prostrating.

This medicine has now been tested and found reliable by so many practitioners that those who have not used it may well add it to their armamentarium, and it will be found a valuable aid in many cases that meet us in daily practice.

In opening the discussion, DR. PERRY said that he had had but little experience with the drug. He had always believed it unreliable. If it did indeed, as was claimed by the reader, relax both the voluntary and involuntary muscles, it might prove very valuable.

DR. B. EMMET had used the drug considerably in neuralgias, and had found it useful in doses of ten minims of the fluid extract every two hours. In tic douloureux it had not seemed to him to be so effectual. He believed it would affect the involuntary muscles, as witness its effect upon the pupil.

DR. MORRILL had used it effectively in ovarian neuralgia, administering from three to five minims of the fluid extract. He had also found it useful in bronchorrhea, as it seemed to diminish the secretion.

DR. BOLDT said that experiments with the drug had proved that its primary effect was on the nervous system, and its secondary on the muscular. It had been claimed by Ringer that the drug had no effect on the pulse or the temperature. He had, however, used it twice in the same child; once, when it was suffering from supra-orbital neuralgia, and without fever, the drug was without effect; a few weeks afterwards, when the child's temperature and pulse rate were high, the drug reduced both in a few hours. In some instances of rigidity of the os and irregular contractions, the drug had seemed to him of value. He had obtained the effect of the drug in from one-half to three-quarters of an hour after its administration, and this lasted for about one hour.

DR. MUNDÉ said that he had obtained results from the drug in cases of dysmenorrhea and in neuralgic headaches by administering it every one-half to one hour in doses of three to five drops

of the tincture. He had not, however, had much experience with it.

DR. VON RAMDOHR suggested that in the case of the child spoken of by Dr. Boldt, there may have been some transient cause, such as indigestion, for the rise of temperature, and that to the removal of this cause the fall was due rather than to the gelsemin.

DR. JACOBUS stated that he had seen the drug recommended in pruritus vulvæ, and had tested it, but with no effect. It had also been advocated for the cure of sterility, but in his hands in this connection also it had proved useless.

DR. GOFFE (present by invitation) had not found the drug of any value in neuralgic headaches. It seemed to him to be most effective in congestive dysmenorrhea, although even here its value was slight. In a case, which he cited, where he had ordered 15 drops of gelsemin, combined with the same amount of physostigmin, to be repeated every three hours, the collapse had been serious.

DR. FREEMAN stated that the drug did act on both the voluntary and the involuntary muscles. Its best effect was to be noted in dysmenorrhea and in certain diseases of children.

In reply to DR. EMMET's question in regard to the antidote, the speaker said that he had seen two fatal cases from the use of the drug and that nothing seemed to be antidotal. The aim should be to keep up the respiration. In one reported fatal case, one-half ounce of the fluid extract had been taken; the same amount had, however, been followed by recovery. Ringer had collected 12 cases of death, and he had himself found 12 additional cases recorded in American literature.

DR. B. EMMET said that in the pharmacopœia morphia was suggested as an antidote.

DR. PERRY thought that *à priori* strychnia was indicated.

#### CASE OF CARCINOMA OF A UTERUS BILOCULARIS.

DR. JANVRIN related the history of the case, the specimen having unfortunately been lost. "Mary D., janitress, native of Ireland, single, æt. 56. She entered the Skin and Cancer Hospital on July 5th, 1887. Had reached the menopause five years previously, and up to six months ago had been free from any vaginal discharge. After unusual exertion at that time, she was taken with dribbling of a bloody fluid which continued for several days, and recurred at irregular intervals with increasing severity until it became almost constant. She had also had severe pain in the hips and back which steadily grew worse. Had lost a great deal of flesh. The patient was a woman of large frame and unusual muscular development. On examination, the external genitals were perfectly normal, but extending down from the meatus of the urethra to the fourchette and back throughout the entire length of the vagina in the median line was a strong partition wall dividing the vagina into two, the left being slightly larger than the right. At the extreme end of the right (the smaller vagina) was a small virgin cervix uteri projecting about one-half inch into the vagina and admitting readily the passage of a small



silver probe. In the left, larger vagina, no well-formed cervix uteri was present, but just above the attachment of the partition wall to the cervical tissue was an opening into the cervix, into which a good-sized sound could be passed. Inserting both sounds simultaneously through the two ossa uteri they almost immediately impinged upon each other, showing a common cervical canal, but, upon pushing them on into the uterus, guiding one to the left, and the other to the right, they became separated by a partition which divided the uterus into two unequal cavities, the one on the left being the larger. The body of the uterus as determined by the bimanual manipulation was large and broad, but was one complete organ, there being no tendency to bicornation.

"The case was diagnosed as carcinoma of the body of the uterus, and on July 27th the cavity was curetted. The discharges were thus checked for about six weeks, although the pain returned within a month.

"On September 23d, the patient was seen in consultation and examined under ether by Dr. Martin, of Berlin, Dr. Lusk, Dr. Wylie, and others. Dr. Martin recommended extirpation of the uterus by laparotomy, but the patient was so exhausted that the speaker had never dared undertake it.

"On October 7th the vaginal septum was excised, the two ossa uteri connected by incision, and the cervix was dilated so as to permit the use of a large curette. The uterine cavity was then curetted and touched with Monsell's solution.

"From this date on, until her death on November 1st, the uterus was washed out daily with disinfecting solutions. She sank steadily and died from exhaustion and septic absorption.

"The pathologist of the hospital, Dr. A. R. Robinson, examined the specimen and reported as follows: In your case of double vagina, etc., the post-mortem showed so much carcinomatous infiltration and subsequent degeneration (ulceration) of the entire inner wall of the uterine cavity that had any septum existed in the uterus it would not have been recognizable as having existed. The left half of the uterine cavity was larger than the right. A few secondary cancerous nodules were found on the outer surface of the uterus beneath the peritoneum. There was a large abscess in the connective tissue in the right pelvic cavity and adhesions between the uterus, bladder, and surrounding tissues. The mucous membrane of the bladder was normal. The left ureter was somewhat dilated. The left kidney was enlarged and in a state of parenchymatous nephritis. The pelvis of this kidney was slightly inflamed. The right ureter was single for half its extent, but divided about midway into two, one going to the upper and the other to the lower part of the kidney. Both the single and double parts were much dilated. The kidney was inflamed in the

same manner as the left one, and there was purulent inflammation of the pelvis (pyelitis)."

THE PRESIDENT asked for the grounds on which Dr. Martin had counselled against vaginal hysterectomy.

DR. JANVRIN replied that both he and Dr. Martin had concluded that the vaginal operation was not feasible owing to the small vagina and the large uterus. The patient had never been in a condition to stand the shock of Freund's operation.

DR. VON RAMDOHR stated that for two and a half years he had had a case of inoperable carcinoma under observation. It was a case of cancer of the body with infiltration of the parametrium. The patient, nevertheless, had remained quite comfortable without local treatment. Five days previously a vesico-vaginal fistula had become established, and she had died that morning.

DR. JANVRIN had seen many similar cases. Where the disease was located in the body of the uterus, ulceration might not occur for years, death eventually resulting from exhaustion.

To the President's question as to whether the same course would be expected if the patient were only about 25 years of age, Dr. Janvrin replied in the negative.

DR. POLK inquired if instances were frequently seen at as early an age as 25.

THE PRESIDENT said that he could recall two.

DR. MUNDÉ had seen an instance somewhat similar to the one recorded by Dr. von Ramdohr. He had been called to the case in consultation two and a half years ago, and had made the diagnosis of medullary carcinoma. A year later he heard that the patient was doing well, and that her friends were inclined to question the diagnosis. Last spring she was still comfortable, although much emaciated. She was alive as yet, and her friends were fully convinced there was no cancer. But he had seen her again in consultation within a year, and found the whole vagina almost closed by malignant disease.

THE PRESIDENT stated that since Feb'y, 1885, he had repeatedly seen a case at the Post-Graduate School, and had often applied the thermo-cautery in the presence of the students. The patient's general condition was even better to-day than it was at the time he first saw her. The excessive and exhausting hemorrhages had been entirely checked by this treatment. She had taken Fowler's solution with iron and Peruvian bark. The disease, however, had gradually destroyed all the cervix and invaded the vault of the vagina.

DR. MUNDÉ stated that it was the cases which did not bleed, and in which there was not much tendency to disintegration which lived for years. Zweifel had recently reported a case where he had extirpated the uterus for cancer in a girl of 13.

DR. BOLDT had seen an instance in a girl of 16.

#### FORCIBLE AND COMPLETE PROLAPSE OF THE UTERUS IN A VIRGIN.

DR. MUNDÉ reported the following case: One year ago, a girl of 24 entered his service at the Mt. Sinai Hospital. As far as one could judge, she was a virgin. She stated that six weeks previously, whilst lifting a heavy wash tub, something gave way, and appeared externally between her thighs. On examination, he

had found complete prolapse of the uterus and vagina. The organ was edematous, and he could not reduce it. He had wound a muslin bandage around it, and ordered constant irrigation with Goulard's wash. Next day he applied an Esmarch's bandage, and after a few minutes he was able to reduce the organ. Laterly the girl had again applied for admission to the hospital on account of bearing-down pain due to descensus of the uterus associated with rectocele and laceration of the perineum. He had performed Alexander's operation and Hegar's kolpo-perineorrhaphy at the same sitting, a combination which had yielded him good results; indeed, only a few days since he had performed trachelorrhaphy, an Alexander, a Stoltz on the anterior wall, a Hegar on the posterior wall, at the same sitting within an hour and a half. Once he had done a trachelorrhaphy, a vesico-vaginal fistula, an Alexander's, and a kolpo-perineorrhaphy at one sitting, all successful. Forcible prolapse in a virgin was of rare occurrence. He had seen one similar case.

---

*Stated Meeting December 6th, 1887.*

*The President, DR. H. T. HANKS, in the Chair.*

AN IMPROVED PEASLEE NEEDLE.

THE PRESIDENT presented the instrument and described it as follows: "It is similar in size and shape to a Peaslee needle. This one is of the most common shape and construction. It will be seen to correspond exactly with a Peaslee needle except in two particulars: (1) the manner of grinding the point, (2) the location of the eye.

(1) "The point is ground exactly like a curved Hagedorn needle, and consequently, like this needle, it is easily thrust through the most dense tissue.

(2) "The eye is placed just at the *widest* point of the instrument, about one-fourth inch from the distal end or point, and it passes through the needle from side to side, and *not* from the convex to the concave side. This part of the needle is therefore quite strong where great strength is required, and where the original Peaslee needle is weakest and consequently liable to, and frequently does break.

"The carrying thread, after the needle is thrust through the tissue, is caught up by a tenaculum and raised as easily as with a Peaslee needle. The puncture in the tissue is no larger than is made by a Peaslee needle of the same size. The cost is the same, and it is made by Tiemann & Co."

DR. BYRNE inquired if the needle had been tested practically. It seemed to him that, owing to the nature of the wound it would make in passing, much hemorrhage would result.

THE PRESIDENT replied that he had used the needle three or four times with great satisfaction. He granted that it did cause more

hemorrhage than those in general use, as was the case with all the Hagedorn needles, but the original Peaslee needle made as large a wound in the tissues, but in a different direction.

DR. BYRNE said that he considered needles curved on the flat preferable, and had used them for years. In them the eye was at right angles to the curve.

THE PRESIDENT claimed that such needles were weak, whilst those he showed were eminently strong.

DR. MCLEAN presented a fetus with the following history :

RARE CASE OF DYSTOCIA FROM DISEASED ARM.

Primipara, 22 years, family history good, had been five and one-half hours in labor with a midwife in attendance.

The head being born, and labor becoming unusually delayed at this point, Dr. G. H. Cocks was called. The child was dead on his arrival. Without much difficulty the right arm of the child was delivered, but further progress seemed to be obstructed by locking of the other arm behind the pubis. During an interval between efforts at extracting the left arm, a severe pain came on and the *breech* of the child was forced down by spontaneous evolution. Then the *left arm* was lastly delivered.

It was found that the delayed arm was immensely enlarged by what appears to be a hematoma, extending from the left acromial region to the elbow, the arm measuring thirteen and one-half inches in circumference. The tumor is fluid or semi-fluid, and has ecchymotic discoloration. The forearm has on its lower third a distinct subcutaneous, fleshy tumor, nodulated like some forms of sarcomata. There seem to be similar deposits on other parts of the arm. Dystocia from such a deformity is exceedingly rare, and a microscopical examination will be made to determine the original disease. There is evidence of some deep lacerations of the neighborhood of the outer end of the clavicle (subcutaneous), as though caused by efforts at delivery.

The specimen will be photographed and further report presented.

DR. MURRAY considered the specimen a remarkable one, and hoped the tumor would be examined microscopically. He questioned if it was due to pressure; for, if there had been pelvic contraction, the fetal head, which was a large one, would not have passed so readily. The tumor might prove to be sarcomatous, but if so, it was singular that there were none elsewhere.

DR. W. R. GILLETTE read a paper entitled

THE RADICAL CURE OF RECTOCELE AND CYSTOCELE BY LIGATION.

In opening the discussion, DR. BYRNE said that the manner of operating advocated by the reader differed but little from a method to which he had resorted twelve or fourteen years previously. This method was more simple than the ordinary plastic, and the steps were as follows: A needle, double-threaded, and carrying heavy silver wire (No. 20) was passed transversely

under the mass; then a second needle was passed antero-posteriorly, and the silver wire was twisted around it. On the second day thereafter, when the tissues had become devitalized, they were removed by the cautery. The advantages of the method were: It required no special expertness; after two days, there was no sloughing tissue in the vagina; healing was rapid; as a result of the cauterization, there was more contraction of the parts. All the cases in which he had used the method had been eminently successful. He claimed that the antero-posterior needle was an important addition, since thus a larger bunch of tissue could be ligated.

THE PRESIDENT inquired if the cicatrix was firmer than after the plastic method of operating.

DR. MURRAY stated that he had seen the operation performed by Dr. Gillette in instances where, owing to the size of the cystocele or rectocele, a plastic operation would have been very tedious. By nicking the mucous membrane, Dr. Gillette was able to include a large mass. True enough, convalescence was more protracted than after plastic operations; but he did not think that the time required was much longer than that necessitated through resort to Dr. Byrne's method, since the slough separated in a week, at most. It seemed to him that an objection to Byrne's method was the fact that anesthetization had to be repeated when the cautery was used. In regard to the cicatrix, he could state that it was very firm.

DR. B. EMMET remarked that usually in the case of rectocele and cystocele an operation was indicated for the relief of symptoms. The method described was simple enough, but it should be remembered that, as a rule, more or less prolapse of the uterus and bladder or rectal wall were associated with these lesions, and it was these symptoms which we were called upon to relieve. He did not believe that a small centre of cicatrization would do this. A firm supporting line was needed, and this was obtained through resort to plastic methods. It seemed to him that Dr. Gillette's method was not called for. It is scarcely necessary to devise an operation any more simple than those now in use, for the mere sake of making it more easy of performance to the general practitioner or seeming of less importance to the patient unless, at the same time, it equals them in efficiency.

DR. CLEVELAND remarked that a number of years ago he had seen Dr. Gillette operate, had watched the case, and that a good result had been obtained. He had also witnessed good results from the use of the clamp: but still, Emmet's operation for cystocele struck him as being the best of all. As regards rectocele, it was a number of years since he had seen a plastic operation demanded by this fact alone. Perineorrhaphy was usually called for, and the rectocele was thus corrected.

DR. BYRNE called attention to the fact that not infrequently rectocele and cystocele were met with without displacement of the uterus. He granted that plastic operations were preferable to the method he had described, but then it was more simple, and there were some patients who desired it on this account. Resort to anesthesia at the time of cauterization was not requisite, since, the tissue being dead, it was not sensitive. As for the ligature, it could be removed in two days. In cases of cystocele, he had



also resorted to the late Dr. Nott's rectilinear-clamp and it had succeeded admirably.

DR. MUNDÉ stated that seven or eight years ago he had heard Dr. Gillette advocate the same method, and that he had been then, as he was now, opposed to ligation and the consequent sloughing in cases where a plastic operation was possible. In his experience, patients did not object to the plastic operation. An objection to Dr. Byrne's method was the fact that it required a double sitting. He had never used the clamp, for he thought it uncertain in its results. Formerly he had used Emmet's operation in case of cystocele, but he had found that the longitudinal cicatrix yielded and the cystocele returned. He had then tested the method devised by Stolz, of Nancy, and had found it a good one. The method consisted in removing a large elliptical piece from the anterior vaginal wall and in passing a stout silk suture, threaded on two needles, around it. The needles were entered anterior to the cervix, were passed in opposite directions underneath the vaginal mucous membrane and emerged below the urethra. The ends of the suture were crossed, and as traction was made upon them, the excess of tissue was pushed into the bladder. The suture was then tied, and removed at the end of ten to fourteen days, and he had never known the resulting central cicatrix to yield. This cicatrix gives full support to the bladder. In order to support the uterus, however, something else was requisite and this was perineorrhaphy. On the posterior vaginal wall he had formerly used the old perineum operation and it had answered well. He had then tried Emmet's new method and whilst he had found it answered for rectocele, since it narrowed the vagina bilaterally, it did not restore the perineum and he had therefore combined perineorrhaphy with it. He was now using Hegar's colpo-perineorrhaphy which he had seen him perform in Europe last year. He had found it the best operation as yet devised. It narrowed the vagina, supported the uterus, restored the perineum, and caused but little discomfort to the patient. Only three external sutures, at the most, were requisite, and they were superficial. In the vagina he used catgut and externally wire, or recently with great satisfaction silkworm-gut. He failed to see any call for Dr. Gillette's method. In case of complete laceration, he had recently twice performed Tait's operation and had achieved excellent results.

DR. NILSEN remarked that Gillette's seemed to be very similar to Stolz's method. It was far more surgical to do a plastic operation than to perform the one advocated by the reader of the paper. He had tried Hegar's method, and it had answered him well. He now was in the habit of burying his sutures after Martin's method, which seemed to him preferable to Stolz's. He had used it five times with excellent results. Prolapse of the uterus certainly did not always accompany rectocele and cystocele.

DR. MORRILL inquired as to the effect of parturition on the cicatrix resulting from Gillette's method.

DR. B. EMMET stated that the cicatrices resulting from the usual plastic methods caused no trouble. In his experience, if Emmet's cystocele operation were well performed there would be no cicatricial line, the parts would unite by primary adhesion, and, if sufficient width were denuded, they would not yield. A firm line of thickened tissue resulted, which would hold the uterus up

at a distance from the urethra. As for Emmet's new operation on the posterior vaginal wall, it was specially devised for those cases where a rectocele was present without external evidence of laceration, yet in many of these cases the perineum was involved also, but within the fourchette, and the operation when finished constituted a complete perineorrhaphy.

DR. MUNDÉ stated, further, that he operated on but few cystoceles compared to rectoceles, a relative proportion being about one to twenty. Cystocele alone he was able to relieve by means of a pessary, such as the Gehrung. He had frequently seen the uterus in normal position when cystocele or rectocele existed alone.

DR. BYRNE said that he wished to lay down the proposition that no vaginal operation, however performed, could restore a prolapsed uterus to its normal position. The attempt might as well be made to keep one's pantaloons in place by gartering.

DR. MUNDÉ replied that, when he spoke of keeping the uterus in place, he meant that he would first put it there.

DR. BACHÉ EMMET believed from experience that a prolapsed uterus, even one that had been outside of the vulva, could be maintained at about its normal position in the pelvis, once it had been replaced and held there, by appropriate treatment, followed by well-chosen and well-performed operations within the vagina, provided it had been reduced to somewhat its normal size and had no fibroid or other weight upon it.

It was necessary to swing it in the pelvis, depending on the attachment of the vaginal mucous membrane to the cellular tissue above which, though overstretched, would in time retract and form a reliable basis of support from the fasciæ. This was to be followed by building up the pelvic floor. The vagina, in such cases, was not narrowed beyond the normal limits and was still fit for all its purposes.

LABOR AT TERM—OCCIPITO-POSTERIOR ALMOST BROW PRESENTATION—  
HEAD EXTENDED—FLEXION BY MEANS OF THE HAND—DELIVERY  
BY FORCEPS.

DR. MUNDÉ reported the following case of obstetric interest: The patient was a nullipara. The membranes had ruptured, but there was no advance of the head, although the pains were good. He had applied the forceps, but as they had tended to slip, he had removed them. Examination under chloroform, while using traction with the forceps, had revealed nearly a brow presentation. He had attempted to rotate with his hand, but could not. He had then flexed with the hand, reapplied the forceps, and delivered the occiput posteriorly. The perineum was, of course, slightly lacerated, but he had at once inserted one deep suture and one superficial, and had obtained good union. The case suggested for discussion the possibility, in the presence of an occipito-posterior position, of rotating with the forceps or with the hand. Personally, he could not approve of using the forceps for this purpose.

DR. PARTRIDGE believed that efforts at rotation by means of the

forceps or the hand almost always failed and were dangerous. In case the head did rotate, this was due to the uterine forces and not to our efforts.

DR. McLEAN said that about one year ago he had read a paper which bore upon the very point in question. A mistake very frequently made was the application of the forceps without first determining the position of the head, and the result was that traction simply made matters worse. He insisted on the necessity of introducing the entire hand into the vagina before applying the forceps, in order to determine the position of the head, for thus, if need be, the head could be rotated with ease by the hand, assisted by external manipulations. It had been objected to this introduction of the hand, that microbes would be carried into the genital tract, but he feared this less than the possible laceration from misdirected traction by the forceps.

DR. MUNDÉ remarked that in the case he had related he knew the position of the head. He repeated that he did not advocate complete rotation by the forceps. He had done this once on the strength of the recommendation in the first edition of Scanzoni's work and whilst he was assistant to him, and had thus lacerated the vagina. Scanzoni had then taught him to let the head rotate in the forceps, and he still clung to this teaching.

DR. McLEAN remarked that the object of inserting the whole hand was to grasp the occiput and thus effect rotation.

THE PRESIDENT stated that he was in accord with Dr. McLean in regard to the insertion of the entire hand. Whenever the forceps tended to slip, the hand should be inserted to find out the reason.

DR. MUNDÉ added that when the forceps were properly applied they would not slip.

DR. MORRILL differed with this statement. Some forceps, especially the Eliot, would occasionally slip, even though properly applied.

#### CASE OF PREGNANCY PROTRACTED FOR TEN MONTHS. RETENTION OF DEAD FETUS FOR FOUR AND A HALF MONTHS.

THE PRESIDENT related the following case which he had seen in consultation with Dr. L. L. Bradshaw, on November 9th: Patient about 30 years old, had one child three years before. The doctor in attendance believed she was syphilitic at the time of that confinement, and had treated her since for this condition. She ceased to menstruate ten months ago. Had the usual symptoms of pregnancy during the first four months. Has never felt life, has been growing smaller in abdomen and breasts for the last three months.

Uterus quite movable, firm, not sensitive, size of a four months' pregnant uterus symmetrically enlarged. Cervix lacerated nearly down to internal os. Cervix firm and unyielding, almost cartilaginous. Canal very small. Conjoined manipulation failed to reveal any extra pulsation in circulation or the peculiar contraction of the fibres of the uterus which is generally detected at four and one-half months when the fetus is living. During the last few months, the breasts having become more flabby, and the



abdomen having grown smaller, the reflex symptoms being wholly absent, the uterus seeming firm, the cervix indurated and very tightly closed, the circulation in and about the uterus being normal, and none of the rhythmical contractions and relaxations of the muscular fibres of the uterus being present, we were led to exclude recent pregnancy with a living child. The diagnosis, therefore, lay between retained menstrual blood and a dead fetus of four and a half months in the uterus. The uterus not giving the physical signs of an organ filled with blood, being firm, and there having been all the signs of pregnancy for four months after the cessation of the menses, led us to believe that we had a uterus which had carried a dead fetus for five months. The doctor in attendance was even more confident than I in this diagnosis; and two days later this diagnosis was confirmed, as the patient gave birth to a fetus, apparently about four and a half months old, with very little amniotic fluid. It had the cord wound tightly around the neck four times, and had all the appearance of a fetus beginning to mummify. The placenta was attached to the uterine cavity, and had to be removed with the blunt curette. It is quite probable that the death was caused by strangulation from the cord and not from syphilis, as there was no fetor and no evidence of decomposition.

RESOLUTIONS ON THE DEATH OF DR. WM. M. CHAMBERLAIN.

This Society, having lost by death the valued services of DR. WM. M. CHAMBERLAIN, who was for many years one of its most highly esteemed members,

Sincerely laments his untimely decease, and remembers with gratitude and affection his kindly intercourse, his genial manner, and his many contributions to our proceedings, which were both instructive and profitable to the profession.

And further, we respectfully extend to his family the assurance of our deepest sympathy in their bereavement.

CLEMENT CLEVELAND, }  
CHAS. C. LEE, M.D. } Committee.

---

## TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

[*Stated Meeting, May 6th, 1887.*]

DR. A. F. A. KING, *President, in the Chair.*

DR. H. D. FRY read a paper entitled

### THE RELATIVE MERITS OF ELECTROLYSIS AND RAPID DILATATION IN THE TREATMENT OF STERILITY AND DYSMENORRHEA.<sup>1</sup>

DR. C. E. HAGNER opened the discussion. He complimented Dr. Fry upon having introduced a subject both of novelty and interest, and went on to say that he never had been in favor of rapid dilatation by the cutting process. It always seemed to him that so much force had to be used in that method as to make it dangerous; moreover, the cicatrix which comes after severe cutting is apt to be a closely contracted one, and may leave the canal as small as it was originally. The patient also has to remain in bed for several days after the operation. He has, however, himself dilated the canal on several occasions sufficiently to admit of conception, without going to extremes and without keeping the patient in bed but a few hours.

If electricity will do what Dr. Fry claims for it, it will certainly be a great boon. We know that it will cause absorption of tissues, as in goitre and urethral stricture, and by analogy it ought to do well in cervical stricture.

He regrets that Dr. Fry did not say more about the *strength* of the current used. The current must evidently vary somewhat, according to the temperament of the patient. A nervous, excitable woman, for instance, might get a very uncomfortable shock from the same current that would not unpleasantly affect another.

He does not quite see why the faradic current instead of the galvanic should be used to bring about menstruation.

It is necessary to observe care in the introduction of the electrode, for the woman, in spite of the small canal, may be pregnant.

A case of his upon whom he had operated with the knife came back to him in six months with the canal apparently as small as before. She earnestly desired a second operation, as she was certain that she was not pregnant and desired to become so. He advised her to wait, but she was obdurate and threatened to go to some one else. He reluctantly applied the knife again, and shortly afterwards she was delivered of about a three months fetus.

THE CHAIR remarked that the recent paper of Dr. Engelmann upon this subject gives the doses, etc.

<sup>1</sup> See original articles in this number.

DR. FRY said that the dose was the least possible current that would do the work.

DR. D. W. PRENTISS was glad to hear the subject discussed, as he has been intending to try this treatment for some time. He has found rapid dilatation unsatisfactory. He has after these operations had the cervix return to its original calibre, and in one case he did a second operation at the end of a year, dilating the cervix to the extreme of the dilator, and then introduced a tent daily for several days. This was three months ago, and the patient still has dysmenorrhea.

The galvanic current does not stimulate the nerves to such an extent as the faradic, and hence in cases of anemia in which we wish to increase the flow of blood to the uterus, the latter current is the best. A weak current only should be used or we might possibly get an opposite effect from what we expect. We know that a long-continued strong current will atrophy a testicle; so also it might an ovary. There is a difference in effect also according to the position of the electrodes. In a galvanic current, the positive pole should be on the abdomen, as that is less sensitive but close to the point we wish to reach.

It is impossible to tell accurately the strength of a current in milliamperes. The number of milliamperes equals the amount of electricity developed minus the resistance in the battery and circuit, and it is easy to see that the resistance in the circuit varies with the body the current passes through. In fat persons it would be more than in thin ones. The sensations of the patient are the only guide we have as to the amount of electricity to be used.

Dr. Fry recommends the weakest current that will be effective. He would advise the strongest current that could be used without doing harm, and thus bring about the desired result in as short a time as possible.

One of the great drawbacks of this treatment is the time each application takes.

It takes about forty-five minutes for each case, and the delay thus caused is very serious to the general practitioner who has other engagements to keep.

DR. J. FORD THOMPSON said that he had never used electricity for the conditions mentioned by Dr. Fry. He is of the opinion, however, that we are inclined to neglect this very valuable therapeutic agent. A year ago, a young man came to him to be treated for a stricture of the rectum. The stricture was about four inches up, the gut was very close, and had the appearance and feel of malignant disease, so he declined to operate. An eminent New York surgeon subsequently gave the same opinion, and also declined to operate. Another gentleman, however, cut through the stricture to the coccyx. The patient returned to Washington before this incision was healed, and once more came under his care.

He used rectal bougies, but there was not much improvement. About a year after this the patient, who, when he saw him last, was very much run down and emaciated, walked into his office a stout and hearty man. He had been treated with electricity by means of a big electrode held against the stricture.

While there was still a ring at the seat of stricture, the mass of the tumor had disappeared and a large rectal bougie could be

passed without pain. He had heard of this use of electricity, but had looked upon its advocates as enthusiasts. The success in this case, however, will induce him to try the treatment on similar conditions. Many of the conditions spoken of by Dr. Fry are the result of either acute version or flexions, and he thinks that, in these cases, the treatment might occasionally cause an evil result.

DR. J. TABER JOHNSON said that he avoided the use of electricity as far as possible in those cases mentioned by Dr. Thompson, though his rule is to use the electrode wherever he can pass a sound. He has been much instructed by the remarks of Drs. Fry and Prentiss, and agrees with the latter that the time an application takes is a disagreeable factor in the treatment. He has had several good results in cases of dysmenorrhea and sterility. He had used the faradic current and in the dose mentioned by Dr. Fry.

DR. FRY, in closing, said that undoubtedly dilatation is a useful proceeding when thoroughly done, in which case subsequent contraction is not apt to occur, and the ultimate result is probably better than when the cervix is only slightly stretched.

He cannot agree with Dr. Prentiss as to the strength of the current. He thinks that the smallest possible current that will cause absorption should be the rule, and that the results are better from this slow treatment than from the more rapid one of Dr. Prentiss.

The chief factor is, however, the intensity of the current, and the best battery to produce this is that with the ordinary zinc and copper plates of small size and with a weak sulphuric acid solution.

The case spoken of was treated mainly for the amenorrhea, but incidentally the other symptoms, such as backache, were relieved. Five years before, this patient had had the cervix rapidly dilated, and a cellulitis followed which kept her in bed for months. He used both currents.

After the first application of the faradic current there had been a freer flow at her next period. He then used the galvanic until a week before her menses were expected, and then applied the other current daily. The faradic is a stimulating current and the galvanic a sedative one.

The faradic current, so to speak, squeezes out the blood from the vessels of the pelvic viscera, where it has stagnated. Thus, in cases where there is passive congestion, the parts become in a measure relieved, and the circulation is quickened.

He does not believe that the strongest current possible without pain will have as good an effect as a weaker current over a longer time. The result of the former treatment may be more brilliant, but it is not so permanent, as the caustic action is greater, and a deep eschar may be produced even by comparatively few cells. The effect of the electricity is to dilate the capillaries and thus cause absorption of redundant tissue. With a strong current we are more likely to overdo the treatment, and no amount of after-treatment can undo this bad treatment.

He has never treated an acute flexure, but he would do it, using the proper electrode for the condition, and endeavor to cause absorption of the cicatricial tissue at the bend.

DR. HAGNER remarked that he meant to imply that extreme dilatation would be harmful, as the cicatrix was almost sure to contract and leave the canal as close as before.

DR. PRENTISS explained that his idea was to use a current as strong as possible without *injury* or *discomfort* to the patient. ||

DR. FRY said that anything but the weakest current that would be effective was improper to use, as a strong current would act by destroying tissue, and there would necessarily be a cicatrix left.

---

## TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

---

*Regular Meeting, Friday, September 24th, 1887.*

*The President, CHARLES WARRINGTON EARLE, M.D., in the Chair.*

DR. J. H. ETHERIDGE read the following paper, entitled,

### VAGINAL HYSTERECTOMY: REPORT OF THREE CASES.

The three cases reported herein were operated on at the Presbyterian Hospital. I can never convey an adequate idea of the relief to the operator offered by the method of hemostasis by forcipressure on the broad ligaments, as compared with that of ligatures. I think no one can fully appreciate the untold superiority of the former method over the latter till he has had experience in the performance of that operation under both methods.

*Case I.*—Mrs. S., æt. 47, mother of nine children, always well, presented herself February 1st, 1887, with epithelioma of the cervix uteri. It did not involve the vault of the vagina. The broad ligaments did not seem to be thickened. Mobility of the uterus was complete. After preparatory treatment with a daily laxative and diuretic for one week, the operation was performed on February 8th, 1887.

The cervix was easily drawn down to the vulvar orifice, and with scissors its vaginal attachment was divided. Strong adhesions to the bladder and rectum were found, and, in consequence thereof, the rectum was opened in one place and the bladder in two places in the process of freeing the uterus from these two organs. After the two broad ligaments were sufficiently isolated, and the fundus was turned backwards and brought down, the left broad ligament was first penetrated and divided into two sections with broad ligatures, and tied as securely as hands could tie them. It was then severed as closely to the corpus uteri as possible, and the whole organ came out of the vagina. Treating the right broad ligament similarly was a much easier matter, because the uterus was down and out of the way. This attachment was at once severed, and the whole organ was then freed from the patient. The ovaries were then removed.

The rent in the bowel was closed by continuous suture without difficulty. The larger rent in the bladder was then closed by continuous suture; but it was done at a great disadvantage, from its peculiar position back of the symphysis and looking directly backwards. To draw down the bladder and to so evert the edges of the rent as to apply the stitches was a delicate and difficult task. The smaller rent, undiscovered at that time, was not closed up. Just as this sewing up was completed, there was observed welling up into the shapeless excavation left after the removal of the uterus great quantities of arterial blood. Which broad ligament it came from was impossible to decide. After a long time the bleeding vessel, which was in the right broad ligament, was secured, but not till after a ligature was pushed off of the left broad ligament. All vessels were eventually secured, but not till a great quantity of blood had been lost.

The top of the vagina was closed from before backwards with a continuous suture, the ligatures were brought down, iodoform gauze stuffed into the vagina, and the patient put to bed. Reaction followed reluctantly. She died from peritonitis and exhaustion in forty-five hours, having passed eight ounces and one drachm of urine in the mean time.

The autopsy revealed a small rent in the bladder, which was concluded to be the cause of the peritonitis.

*Case II.*—Mrs. C., æt. 36 years, laundress, tall, spare, nervous, and of sanguine temperament, presented herself February 10th, 1887, with a small epithelioma of the cervix uteri. The upper portion of the vaginal cervix was not involved. The choice between amputation of the cervix and hysterectomy was left to the patient, after full explanation of the dangers and results of the two procedures. She decided to have the latter operation, which was performed on February 25th, 1887.

The uterus was easily drawn down to the vulvar orifice, and freed from its vaginal attachments with the scissors. The bladder was uncommonly closely attached to the uterus, and before its complete separation was accomplished, it was opened. The opening into the Douglas cul-de-sac was easily effected, and the fundus rocked backward through the sacral hollow, down and out through the vulva. The broad ligaments were secured with silk ligatures, and the uterus removed after its separation from them. The ovaries were separately removed immediately afterwards. In closing the vesical rent, the left broad ligament shed its ligatures and bled furiously. Hemorrhage was soon checked and the vagina was closed from before backwards, the ligatures were brought down into the vagina, and the latter organ was filled with iodoform gauze. The patient rallied well. The temperature rose to 100° on the second and third days. Thereafter naught worthy of special mention occurred. On the tenth day, an elastic ligature, attached to the patient's left thigh, was tied



to those protruding from the vagina, and in five days they began to come away, and in forty-eight hours afterwards the last one was removed. In thirty-six days she left the hospital.

*Case III.*—April 13th, 1887, Mrs. C., æt. 49, widow; last confinement twenty-eight years ago; still menstruating regularly every three weeks, flowing one week.

Six months ago she began to have leucorrhœa and to lose occasional small amounts of blood. She has excellent general health. She is a good breakfaster, digests well, and is a good excreter from the bowels, kidneys, and skin. She is well-nourished, and presents a promising outcome for any surgical ordeal. The only thing that one could wish different in her general aspect is a too rapidly acting heart. It beats over ninety times a minute, and the arterial impulse is persistent. She has often seen lateritious deposits in her renal secretion.

Examination reveals an epitheliomatous degeneration of the cervix, with about one-fourth of an inch of uninvaded tissue of the cervix between the cancer and the vaginal vault. The uterus was about four inches deep, and it bled freely upon withdrawing the sound. The fundus was large, and was easily felt through the abdominal wall. The uterus was freely movable, indicating the non-implication of the lymphatics in the broad ligament. The absence of the invasion of the vaginal wall and of the circum-uterine tissues led to recommending an operation for removal of the whole uterus.

From April 19th to May 5th, the date of the operation, she took cascara daily, and digitalis and acetate of potash. The condition of the excretions seemed to be as nearly perfect as possible preparatory to an operation. The patient slept in the hospital the night before the operation, and took the customary antiseptic general bath, and had administered several vaginal bichloride douches.

*The Operation.*—The cervix was drawn into the vulva with two large, lock vulsella forceps, while the vagina attachment to the cervix was divided with the scissors. Gradually and patiently the circumcervical tissues and the attachments of the bladder and rectum were crowded away with the finger-nail till the Douglas cul-de-sac could be opened. Then it was found quite impossible to reach the top of the fundus with the fingers. The cul-de-sac of peritoneum between the bladder and the uterus was then opened, with the hope of being able to retroflex the uterus by means of the fingers placed before and behind the uterus. This manœuvre was likewise found to be an impossibility. After repeated vain attempts to reach the top of the fundus with the fingers that method was abandoned. Trial of very deep suprapubic pressure to thrust the fundus back toward the sacral hollow, and at the same time of grasping and pulling down the fundus with a small vulsellum forceps thrust through the Douglas

cul-de-sac at last succeeded, after three or four tearings out of the forceps, in getting the top of the uterus out into the world. Snap forceps were then placed on the broad ligaments, and the latter divided. The subsequent dressing consisted in tucking a thin layer of iodoform gauze into the vagina, care being taken to avoid separating the top of the vaginal walls. The danger of this separation must be patent to any observer. Ribollet attributes the death of one of his patients to crowding too much gauze into the upper vagina.

No stitches were used to close the upper end of the vagina. Its borders were permitted to collapse and to close in any position that they chanced to occupy. The fear that the bowels and bladder might seek an outlet through the vaginal tract is wholly groundless. One ligature was used for a vaginal artery. No attention was paid to it in the final dressing.

The ovaries were both removed after the uterus was finally separated from its attachments.

The patient reacted well from the shock of the operation, which consumed seventy-five minutes. Her daily progress was so uniformly satisfactory that any detailed descriptive statement of it would be monotony itself.

The pulse ranged from 90 to 120 beats per minute. It was 98 when she left the hospital. The temperature reached 100° one morning only, and on five evenings, from the third to the seventh days, inclusive.

The amount of urine passed daily during the first fourteen days after the operation is indicated by ounces in the following figures: 19, 19½, 25, 33, 26, 24, 23½, 25, 30, 31½, 34, 40, 35, and 26½.

The forceps, one pair on each *ligamentum latum*, were removed at the end of forty-eight hours. Although any one knows that forty-eight hours of obliteration of the lumen of an artery will necessarily destroy its patency, yet the writer was filled with misgiving when the forceps were very carefully unsnapped and as carefully removed as gentleness itself could supervise. The folds and creases of the vagina, as far up into the shapeless excavation as vision could peer upon an exaggerated separation of the vulva with fingers, were watched with an intensity of eagerness and anxiety, for their being inundated with the hot scarlet blood that so easily comes from the ovarian and uterine arteries, that can be appreciated only by him who has experienced these emotions. No bleeding followed the removal of pressure from the broad ligaments. The vagina was not filled with gauze. Iodoform was blown into this cavern as far as was possible daily.

It was impossible to state definitely the amount of drainage that escaped; perhaps three tablespoonfuls daily for the first two days would cover it all; afterwards the amount could not have been more than one tablespoonful on the third and fourth days each. After the fourth day, none escaped to mention.



The following are some points of interest concerning this operation.

*Indications for its Performance.*—(a) Ten years ago, and indeed until quite recently, the chief indication for the performance of vaginal hysterectomy was malignant disease. At present, it is agreed by all operators that the earlier it is performed for cancer the greater are the chances for its non-recurrence. This dread malady always returns sooner or later after amputation of the uterine cervix, and of course proves fatal; whereas, where the whole organ is removed, the patient is given the only hope of a permanent recovery. Hysterectomy does not always prevent recurrence of the development of this neoplasm, yet it offers the best results. Martin reports eight cases of hysterectomy for cancer, without relapse, varying from two and one-half to five years. According to Sängner, the average of survival after this operation is eleven months. Olshausen reports cases after operation, of relapse, once after eighteen months, twice after two years, and twice after three years. Fritsch recently reported sixty vaginal hysterectomies, of which fifty-three patients recovered. There had been no recurrence of the disease in two patients after a period of three years. Seven patients had survived two years without recurrence, and seven other women had lived over one year without relapse. Recurrence ordinarily takes place in the seventh month after removal of cancer, and sixteen cases of F. would seem, from his report, to be in a fair way to cure.

The most favorable conditions offered for hysterectomy are the non-involvement of the vagina, and complete mobility of the uterus, which shows the non-invasion of the ligamenta lata. In other words, the earlier in the disease the operation can be performed the better are the promises of a radical cure. Only too often does it occur that the disease has advanced too far before the gynecologist is consulted.

(b) *Procidentia uteri* is another condition for which this operation is performed. Anaplastic operations do not always restore the organ to its normal level. Artificial vaginal stenosis, to the extent of the non-admission of the little finger, has failed ultimately to relieve the procidentia through gradual dilatation of the vaginal channel.

(c) Fibrous bodies of the uterus which offer the point of departure of serious irregularities have constituted a cause for vaginal hysterectomy. Of course, reference is had to small tumors. Hedenreich reports four cases of operation with four successes. He<sup>1</sup> considers that at present it is impossible to pronounce upon the relative merits of vaginal hysterectomy and of castration for small fibrous bodies in the uterus. Péan<sup>2</sup> recently reports a case of the same operation for multiple fibroids.

<sup>1</sup> Hedenreich, Albert: "De l'hystérectomie vaginale," (*Semaine Méd.*, Paris, 1886, vi., 69-70.)

<sup>2</sup> *Gazette des Hôpitaux*, October 12th, 1886, pp. 950-951.

(d) The hysteroneuroses (inveterate dysmenorrhea, neuralgia, convulsion, etc.), for which oöphorectomy is so often performed, Péan considers a justifiable cause for this surgical procedure. His reasoning is that these neuroses sustain an intimate relation to the uterus itself, consequently the uterus should be included along with the tubes and ovaries. (Caldwell, Paris letter in *Chicago Medical Journal and Examiner*, February, 1887.)

As an illustration of the *furor operativus*, a recent article from the pen of a Cologne surgeon, Dr. Frank, may be mentioned, published in the April 3d, 1887, number of the *Archiv für Gynäkologie*, in which are enumerated the following cases of removal of the entire uterus: For endometritis, four cases; for retroflexion or retroversion with fixation, three cases; pruritus uterinus, one case; and for neuralgia and retention of urine, one case. The members of the medical profession can scarcely read the account of these cases without being astounded at the amazing temerity of such proceedings.

The various steps of the operation consist in (1) freeing the cervix from its attachments; (2) hemostasis; and (3) the subsequent dressing.

(1) The cervix must be drawn down with forceps into the vulvar orifice if possible, and the vaginal attachment severed with any cutting instrument, a bistoury, a blunt or a sharp-pointed scissors. Some operators prefer one instrument, others another. It is a trifling choice to make between them. The vulva should be held open laterally by retractors deftly held just within the ostium; if they are thrust into the vagina too far they prevent the free descent of the uterus. If they are wide enough, a perineal retractor is unnecessary. Just before making the initial cutting it is well to push up the cervix (which has been drawn down) to its normal level, and to mark with the eye where the vagina is attached, and then draw down the organ and begin proceedings. This point is rather important, because no one can tell where the vaginal wall terminates and the cervical covering begins, and one is universally inclined to begin the enucleation too far away from the cervix, and thus to open the bladder. The encircling of the cervix can be made at once, and the tissues pushed away from the uterus in all directions till the broad ligaments are reached, when they (the latter) will of course not be disturbed. The gravest necessity exists for keeping exceedingly close to the cervix anteriorly, otherwise the operator will find that he has opened the bladder almost before he has any idea that he is dangerously near it. By keeping as closely to the cervix as possible, another important, nay vital, advantage will be gained, viz., the avoidance of wounding the ureter, which perforates the bladder just above the inside of the anterior vaginal wall. Wounding this duct complicates matters most woefully in that it necessitates the extirpation of the kidney. The surest

way of determining the dangerous proximity to the ureter is to discover the pulsation of its accompanying artery, which is a branch of the uterine artery, and is of considerable magnitude. Absolute safety from wounding this important channel is guaranteed to him only who keeps closely enough to the cervix in its denudation. Very soon the finger can be made to penetrate the peritoneal cavity, as will be indicated by its feeling the fundus covered with the smooth, glistening peritoneum. The freeing the posterior cervical wall should be prosecuted with the same care to remain close to the uterus, and thus avoid opening the rectum. The finger easily penetrates the Douglas cul-de-sac, and the body of the uterus can then be explored readily. Up to this point, when the peritoneal cavity is opened, the bleeding is considerable, though not at all alarming. It is best to proceed as rapidly as possible, and not to attempt to check hemorrhage. Occasionally the peritoneum is tough, and cannot be perforated by the finger; then a blunt-pointed pair of scissors, *closed*, can be thrust into this cavity, quickly spread and withdrawn, leaving an opening large enough to admit the finger.

After opening the posterior cul-de-sac, some operators push a soft sponge into the peritoneal cavity to remain there till the operation is terminated, for the purpose of preventing the entrance of noxious matters and of keeping the bowels up and away from possible injury. It also serves the purpose upon its withdrawal of drawing down the ragged edges of the peritoneum, so that in the wound peritoneum lies opposed to peritoneum, a most desirable position to be secured.

At this point two proceedings lie open. One is to bring the fundus down through the anterior cul-de-sac, or through the posterior cul-de-sac, *i. e.*, to acutely and completely anteflex or retroflex the uterus; and the other is, to let flexion entirely alone, and to proceed at once with the treatment of the ligamenta lata with reference to preventing their vessels from bleeding and to dividing them, and thus freeing the uterus wholly from the body. Another plan resorted to before removing the organ has been, after securing the broad ligaments, to bisect the uterus from fundus to os, removing each half separately. It must be a very exceptional case demanding this proceeding. When the uterus is small, flexing it is an easy matter. When large it is a very difficult matter, and when very large it is a feat impossible to accomplish.

C. Staude<sup>1</sup> recommends opening the Douglas cul-de-sac first and retroflexing the uterus completely before opening the vesico-uterine cul-de-sac, in order not to permit the cancerous cervix to enter the peritoneal cavity as the fundus is brought downwards. The ante-uterine peritoneal space thus shut off will

<sup>1</sup> Deutsche Med. Wochenschrift, Berlin, 1886, xii., 602-604.

effectually prevent the cervix entering it. However, with the cervix firmly held by the vulsellum forceps, it is impossible for it to ascend into the peritoneal cavity as the fundus is brought down. Furthermore, if the ante-uterine peritoneal space be not opened, the work of securing the lateral vascular supply must be greatly embarrassed, and the danger of wounding the ureters greatly, almost infinitely increased.

The second step in the operation consists in hemostasis, and it includes securing and dividing the broad ligaments.

The devices that have been used to secure hemostasis are almost legion. Until very recently silk ligatures only were used to secure the whole mass of the ligament or to secure it in separate divisions by the continuous or the loop method. Later, the *écraseur*, wire, or the elastic ligature has been used. The cautery has been used. A separate catgut ligature for each tube has been recommended. Needles with a great variety of curves have been devised. The application of ligatures is attended with much difficulty, often failing in the most skilled hands.

By far the best method of accomplishing hemostasis is the snap forceps. It is a sure method: it abbreviates the operation and affords, additionally, perfect drainage. Before using them it is always well to test the ratchet and ascertain whether they will hold permanently. Occasionally forceps will unsnap, and a greater calamity cannot befall an operator than to have that occur after leaving the patient. Tying the forceps together when in doubt about their reliability can be done.

After the peritoneal cavity before and behind the uterus has been opened, and the uterus has been completely flexed, when possible, and is retained by the *ligamenta lata* only, the latter are ready to receive the forcipressure. With the forefinger of the left hand hooked over the superior margin of the left broad ligament, the right hand can adjust the forceps to compress the whole width of the ligament and tighten the instrument to the last notch. It is best to attach it as near to the uterus as possible, and yet permit room for dividing the ligament easily at its uterine end. While adjusting the forceps, it is, of course, scarcely necessary to mention the desirability of not including in them a bit of omentum or a piece of intestine. I know of no greater satisfaction in gynecological operations that the operator can experience than in tightening hemostatic forceps on a broad ligament—a satisfaction greatly intensified when one has previously had the appalling accident occur of the sliding off of the silk ligatures after the broad ligament has been permitted to contract and withdraw into the pelvis up and out of sight.

When the uterus cannot be flexed, the forceps have to be applied in the best way that can be devised. With a much enlarged uterus the forceps can be applied to include broad ligament to the extent of the length of its jaws; that amount of the ligament

can then be divided, and up through the divided segment another pair of forceps can be pushed to include the remainder of the ligament, which in turn can be divided. When the finger cannot reach the superior margin of the ligament, the lower section of each ligament can be seized and divided, when it will be found that the whole organ can be made to descend, and thus the entire ligament upon each side can be divided. When this procedure is necessary, the difficulty of proceeding is greatly increased because of the narrowing of the vaginal space.

After removing the uterus, the parts should be allowed to retract, in order to allow any vessels to bleed that are prevented from it by their traction. By this means arterial twigs are often discovered which otherwise escape detection. All further arresting of hemorrhage can be accomplished easily with forceps. This step in the operation is of vast importance, since hemorrhage cannot only result fatally, but even when not large it can become the unsuspected cause of a fatal peritonitis.

The last step of the operation concerns the management of the wound. The most elaborate sewing and draining of the vaginal cavity have been resorted to. Stitching the peritoneum to the vaginal wall is regarded necessary by some operators. One operator recently stated in his report of a case that he stitched the two tissues together in front of the uterus before opening the Douglas pouch. Stitching the anterior vaginal border of the rent to the posterior border, drawing the ends of the ligatures out through their centre, has been very commonly done. Running a purse-string suture around the top of the vagina with a piece of rubber drainage tube, and the ligatures passing through the middle of the puckering, has been used.

Sewing up of the vagina is wholly unnecessary in most cases. These various closings of the vagina have been regarded as essential to keep back the bowels and to prevent septicemia through the vagina. Of the former, there is a minimum danger. When the operation is completed, the superior vaginal opening collapses as thoroughly and completely as the ostium vaginae closes. The oozing apposed surfaces at once interdigitate and inaugurate the preliminary processes of union. They do not lie idle for a space of twenty-four or forty-eight hours before commencing union is set up. At the end of forty-eight hours the top of the vagina is all closed to the passage of fluids excepting through that portion of it occupied by the means of drainage.

The use of iodoform gauze in the vagina is of the utmost importance, and, when wrongly used, is a source of danger. The vagina must be absolutely aseptic, and herein the gauze filled with iodoform becomes of such great service. Stuffing the vagina too full of this agent keeps apart the walls of the top of the vagina and prevents their union.

DR. CHRISTIAN FENGER made the following remarks, illustrated by specimens.

CARCINOMA OF THE CERVIX.

The first specimen was from a woman about 40 years of age, a multipara. She had had symptoms for over a year, and was in rather an emaciated condition, partly on account of chronic bronchitis and a cystic goitre, and partly on account of the carcinoma where several local operations had been done before. It is a cervix carcinoma, with the cervix involved almost to the internal os, the white mass here below being the carcinoma tissue, and all of the rest of the cervix being carcinomatous. The only thing that induced me to operate in this case was the extreme movability of the uterus. As a rule, in carcinomas that have gone as far as this, I do not think operation is advisable: I think it is too late. However, she was not asked by me to be operated upon, but she implored me to operate on her at any risk to her life, and I operated. Before the operation her pulse was 120, and she was, as I stated before, weak, but the uterus was movable and was taken without any considerable difficulties. Before the end of the operation, which lasted about two hours, she was very weak and almost pulseless. This condition lasted after the operation during the afternoon, and in the evening her pulse was 170 and scarcely countable. She did not lose any quantity of blood to speak of. I made a saline transfusion of twelve or thirteen ounces in the brachial vein, afterwards the pulse got stronger, and continued so from that time, and there was no further trouble during her recovery.

The next specimen is a portio carcinoma extending about an inch into the cervix on the posterior lip. It is a portio carcinoma because it has its greatest extent down at the vaginal portion, and becomes smaller and smaller as it goes up in the cervix. If we have a cervix carcinoma that opens down in the vaginal portion, we should expect to have a larger cavity in the cervix and a smaller opening in the vaginal portion. This patient was 28 years old, and in spite of her being a nullipara the operation was very easy. I had here, as in all of the cases, to dilate the vagina posteriorly, but otherwise, evidently on account of the small size of the uterus, the operation was easy—so easy that there was no cause for either ante- or retroversion while taking it out; it was just held down, and the ligaments ligated. In this case the operation was so easy that I united the peritoneal as well as the vaginal wound, closed them up together with a row of sutures, commencing in the anterior fornix, going through the anterior peritoneum, the posterior peritoneum, and out of the posterior fornix, thus closing up by one row of sutures the peritoneal and the vaginal wound. In the other case, I closed the peritoneal wound and left the vaginal wound open. The drainage used was



iodoform gauze. She made the most undisturbed recovery of all of them; never had a rise of temperature nor of pulse, and never had any pain. The tubes and ovaries were not removed.

The third case is a small portio carcinoma, extending but slightly up in the cervix, and can be seen on the posterior surface of the uterus. She had previously had perimetritis. This uterus was perfectly movable, but the operation was not easy, as the loosening of the bladder from the uterus was difficult, while in the first two cases it was easily detached with the finger. But here, perhaps on account of the previous perimetritis, the tissue between the bladder and uterus was so dense that it had to be cut with the scissors, and I made a small opening into the bladder which was united at the time it was cut, and did not leave any bad results, not even a temporary fistula, as no urine passed at any time down into the vagina. Her recovery was uninterrupted.

The fourth specimen is another portio carcinoma on the posterior lip, reaching up in the cervix perhaps half an inch. The patient was a multipara, 28 years old, and quite fleshy. Contrary to my expectations, the operation was extremely difficult. The vagina was not unusually narrow, but I think the difficulty of the operation was due partly to the large size of the uterus, and partly on account of the fact that she was very fleshy. I think that in a very fleshy person there is some little part of the vagina narrowed by the subcutaneous tissue on the inside of the nates. There was here the same difficulty as in the previous one, about separating the bladder from the uterus, which, however, has not given rise to any passage of urine into the vagina. I operated according to the method of Leopold, loosening the lower part of the broad ligaments first, and then going up until there were no firm bands left on the sides of the uterus. When that is done, and the anterior fornix loosened, as a rule the uterus becomes so movable that it comes down an inch or an inch and a half or two inches into the vulva, so that the rest of the operation is comparatively easy. But in this case it did not come down. There was an unyielding condition of the lateral ligaments. What the reason was I do not know. Of course, this condition made the operation difficult and long, so that at the end of the operation I did not care to lose time in uniting the peritoneal or the vaginal wound, but only brought down the ligatures to the borders of the vaginal incision, uniting them here and leaving the peritoneal cavity open, using for drainage iodoform gauze packed up in the peritoneal cavity. This patient did not have an uninterrupted recovery. She had a temperature for a couple of days of about  $101\frac{1}{2}$ , later on 100, now it is down below a hundred. But what alarmed me more than the temperature was that the pulse was up in the neighborhood of 120 all the time, until now it has finally gone down. In this case I had to change the gauze packing at the beginning of the

rise in temperature, taking it out and introducing a drainage tube so as to be able to wash it out every day; the washing out, however, not being trusted until after the tenth day, because at least one, perhaps more cases are on record where, when the washing out was performed early, the fluid has gone up into the peritoneal cavity and caused general infection.

DR. MERRIMAN.—Do you think that if you had sewed up the cavity of the peritoneum you would have saved her much?

DR. FENGER.—I must confess that I believe in closing the peritoneal wound as a matter of safety.

The specimens here show one point, namely, that a strict line, as Ruge and Veit have pointed out, between portio carcinomas and cervix carcinomas does not exist. They say that a portio carcinoma very rarely extends up into the cervix. If that is the case, it would, of course, not be justifiable in many cases of simple portio carcinoma to do anything but the partial operation. Fritsch has called attention to a fact which these specimens show very distinctly, that is, the difficulty of finding out if a portio carcinoma is limited to the portio proper, or extends up into the cervix or even into the cavity of the corpus.

I might say a few words in regard to the manner of operating. It is very far from being generally agreed upon which operation is the best, and the variety of procedures is very large. As an illustration, we will take the treatment of the broad ligament and the closing of the vaginal and peritoneal wound. I think there has been an improvement in the technique of operating over the old methods in operating as proposed by Sänger and Fritsch. They begin the operation by the ligaturing step by step of the parametria. When that is done well on both sides, the uterus will become so movable that the remainder of the operation can be done with comparative ease. This ligaturing step by step, together with Martin's method of suturing, does away with one of the dangers of the operation, namely, hemorrhage. By this step ligaturing the uterine artery is met half or three-quarters of an inch above the fornix, and can be securely ligated so that the rest of the operation can be done with comparatively little loss of blood. The other danger which we have to encounter is sepsis, as we have to do with a carcinoma whose surface is always decomposed and septic. Besides doing the usual and necessary clean operating, Leopold proposes that we should not anteverte or retrovert the uterus, but take it out without any of these procedures. Fritsch advises to leave the posterior fornix closed when we anteverte, so that the carcinomatous surface cannot be turned up into the peritoneal cavity, and come in contact with the organs there.

As to the treatment of the peritoneal and vaginal wound, there are also a great variety of methods. It seems that for after-treatment packing with iodoform gauze is much more convenient



and much less troublesome than a drainage-tube, as the iodoform gauze can be left in for a week or more without being removed, and then the after-treatment is over.

DR. NELSON.—I would like to ask Dr. Fenger in regard to the removal of the ovaries and tubes, whether they are likely to produce disagreeable results in the after-history of the patient by being retained. I can understand full well the desirability of leaving as many organs and as much tissue as can be left, but would raise the question of the desirability or not of removal of the ovaries and tubes when the uterus has been removed.

DR. FENGER.—In answer to that question, I would say that it is remarkable what little trouble has been reported from the cases where the ovaries and tubes have been left. There are a few cases, one of Schroeder's, where the menstrual molimina from the organs left has caused the patient trouble. In another case, the ovary or a piece of it which had been left was imbedded in the cicatrix, and caused afterwards, according to the opinion of the operator, periodical pains. Brennecke says that he has come to the conclusion that it does not do any harm to leave the ovaries and tubes in. He says that the ovaries atrophy, that some of his patients have had slight molimina in the first three to nine months after the operation, and after that time the symptoms from the ovaries have always entirely ceased. That is all I know about this question. But as we get towards the end of the operation it is hard on the patient and hard on the operator, and I feel like doing as little additional operating as possible, and if I can leave the ovaries and tubes without doing the patient any harm I prefer to do so, as the operation in many cases is a severe one on account of the liability of the patient to collapse towards the end of the operation, which lasts for an hour and a half to two hours. So until I can do the operation much quicker I should prefer to leave the ovaries and tubes in.

DR. MERRIMAN.—Is there any danger of including the ureter in this operation, of injuring it in any way?

DR. FENGER.—Yes, sir; there is danger, inasmuch as it has been done, although very rarely. When the ligaturing of the broad ligaments has been done step by step so that the uterus can be drawn down, then the ureter stays up, so that the final ligature of the broad ligaments is not likely to include the ureter.

DR. MERRIMAN.—But in this method that has been spoken of as Martin's, would there not be more danger when the bladder is not loosened?

DR. FENGER.—Martin ligates step by step, the parametria first; consequently he gets the uterus further down.

DR. MERRIMAN.—He draws the bladder down with it, the uterus and bladder not being disconnected, and I should think there would be great danger of including the ureter in some of the operations.

DR. FENGER.—Even if the ureter is caught with the bladder when the uterus is made movable and drawn down, the ureters stay up.

DR. NELSON.—Is it customary with the majority of operators to curette and thoroughly disinfect the carcinomatous ulcer before beginning the operation, immediately before, or is it done several days before, or is it done at all?

DR. FENGER.—I think it is done several days before by some, for instance, by Hegar and some others. Fritsch and Leopold do it at the beginning of the operation. After the curetting, the surface is disinfected by a strong solution of chloride of zinc or a strong carbolic acid solution. I prefer to postpone it to the beginning of the operation so as not to have the patient disturbed with an additional operation, with some loss of blood.

DR. MERRIMAN.—Supposing there was a case of cancer that had gone beyond the cervix into the tissue posterior to the uterus, invading the vagina and extending along down on the arterial side, but there was nothing anterior to the uterus, would it be safe in a case of that kind to undertake the operation of extirpation?

DR. FENGER.—I think I should refuse. I think the benefit to the patient lies in operating early, and as soon as a portio carcinoma has gone over on to the wall of the vagina to any extent I think the prospects of a radical cure are very small, and that the patient is just as well off with symptomatic treatment, curetting, etc. I think the aim of the operation should be a radical cure, and that extensive operating is being done away with more and more, and only limited cases regarded fit for operation.

Has the vaginal hysterectomy become less dangerous since its revival by Czerny in 1879? The mortality from the operation for the first five years up to 1884 has been given by Mundé to be 28%. In a paper read before the Amer. Gynecological Association in 1884, he tabulated all the cases to be found in the literature from Europe as well as the United States; the operations amounted to 255 with 72 deaths = 28%.

For the operations of the year of 1885, recorded in Virchow-Hirsch's *Jahresbericht*, 1886, the mortality is already considerably lower. I find reports from 32 operators. In all 106 cases with 17 deaths, or 16%.

A. Martin reports, in his work of 1887, 66 cases with 11 deaths = 16.6%. Special reports from individual operators in the last year show even more favorable results.

Thus we find reported by

Klotz,	17 cases,	No deaths.
Gaillard Thomas.	15 "	No "

Most valuable, however, are, on account of the larger number of cases, the recent reports from Fritsch and Leopold.

Fritsch reports	60 cases with 7 deaths,	10.1%.
Leopold "	48 " " 3 " "	6.2% mortality.

The reports of both last-named operators include all of their operations from 1883 to 1887. Leopold's mortality of 6% is the lowest yet recorded for a larger number of cases. Every operator has, undoubtedly, in the beginning of his work in this line operated on cases that were too far advanced for a reasonable hope of permanent eradication of the disease. The more recent the origin of the tumor, and consequently the more limited the extent of the growth, the better are the prospects, as well the immediate as the remote, for the patient. If then in future the cases for operation are properly selected, we can expect that the mortality will reach a reasonably low figure, and I think we must agree with Fritsch in the following statements (p. 385, l. c.): "I have

no doubt that in a near future the mortality in general will come down to 3 or 4%."

It certainly seems remarkable, and far surpassing the expectations with which this operation less than ten years ago was reintroduced in surgery, that in so short a time its mortality should come down to almost the same point as in laparotomy for ovarian tumors. Ovariectomy needed a much longer series of years to reach the point of safety it possesses now. Vaginal hysterectomy for carcinoma can be said now to be not more dangerous than the extirpation of a carcinomatous mamma with removal of the axillary glands, for which operation Billroth<sup>1</sup> gives a mortality of 10.5%. Schmid, from Kuster's Hospital (Auguste Hospital, Berlin), 5.2%.

Are the partial operations on the carcinomatous uterus, provided they permit of effective removal of the tumor, preferable as being much less dangerous than the total extirpation?

Pawlick<sup>2</sup> reports a large series of partial galvano-caustic operations from Brown's Klinik in Vienna.

137 cases had 10 deaths = 7.2%, from immediate effects of the operations.

In 12 of the cases of recovery, late hemorrhages of a severe character were observed.

Schröder reports 105 vaginal amputations of vaginal portion and cervix with 13 deaths from sepsis = 12.3%. Wallace<sup>4</sup> reports 10 cases with 2 deaths = 20%. Gusserow<sup>5</sup> has 33 cases with 3 deaths = 9%.

We can thus conclude that, if the mortality of total hysterectomy is in the neighborhood of 10%, the operation is not much more dangerous than the partial vaginal operations.<sup>6</sup> A much larger field than hitherto will undoubtedly be accorded to the operation. It is, in many cases, almost impossible to determine how far up into the walls of the uterus the carcinoma tissue extends. Even with a mortality of 25% for the total extirpation, Gusserow, in doubtful cases, will prefer this operation to the partial operations, and he states in this connection as follows: "The safer total extirpation becomes, the more it will take the place of the vaginal amputation of the cervix."

A manifold cited case of Binswanger is of importance in our choice of operation. He found a perfectly isolated portio carcinoma, accompanied by an also isolated carcinomatous degeneration of the mucous membrane of the fundus. It is generally accepted as a law in the surgery of the mammary gland, that however localized a small carcinomatous nodule may be, nothing less than the removal of the entire gland, and I regard it safe to add the lymphatics of the axilla, would be the safe operative procedure to adopt. It can thus be understood that authors who believe in a low mortality for the vaginal hysterectomy—Sänger, Leopold,

<sup>1</sup> Billroth, "Krankheiten der Brustdrüsen," p. 155. "Deutsche Chirurgie," 41.

<sup>2</sup> Wiener Klinik, 1883, xii., 4.

<sup>3</sup> "Krankheiten der weiblichen Sexualorgane," 1884.

<sup>4</sup> British Med. Journal, September 15th, 1883.

<sup>5</sup> "Die Neubildungen des Uterus," 1885, p. 233.

<sup>6</sup> Schatz, 1883. "The danger of the high vaginal amputation does not seem to be much smaller than that of the total extirpation."

Fritsch—require this operation to be done in all cases of limited carcinomas, even small carcinomas of the vaginal portion, to the exclusion of any of the partial operations.

Fritsch calls attention to the fact that a strict demarcation line between carcinoma of the cervix and of the vaginal portion, as Ruge and Veit in their classical article on uterine carcinomas have described it, does not exist in all cases. Some apparent portio carcinomas extend deeply up into the cervix. It is often not possible during a partial operation, viz., vaginal amputation of the cervix, to determine if we amputate in healthy tissue.

Consequently, for the majority of such cases, the total extirpation is safer as to radical cure of the carcinoma than a partial operation.

DR. H. T. BYFORD.—I had the good fortune to successfully operate upon one case in which the uterus looked something like this larger one Prof. Fenger has shown us. It was probably an inch longer. The patient was a fleshy married lady about thirty years old. The cervix had been amputated a few months before. I ligated the broad ligaments step by step, as recommended by Leopold. I left the abdominal cavity open except to draw the ligatured parts together, and then packed the vagina with iodoform gauze for eight days. By mistake one of the iodoform tampons was left in nearly two weeks, but it did not cause any serious symptoms. As to leaving the peritoneal cavity open, I think there never will be a cast-iron rule, for that will probably have to be decided by the case. If the case was one in which there was much manipulation of the broad ligaments we would expect some sero-sanguinous exudation, and should not completely close the peritoneal cavity. When we use iodoform gauze in the proper shape we practically close it up. I do not see the use of sutures. Before there can be any decomposition of secretions, the peritoneal cavity is closed by exudation. Stitches are only a source of irritation both during and after the placement. As to leaving the ovaries, it seems to me that in taking out the uterus we take out the larger portion of the sexual nervous system and produce atrophy of the sexual organs quicker by removing the uterus than by removing the ovaries. It would be almost as superfluous to remove the ovaries after taking out the uterus as to remove the uterus after taking out the ovaries to bring on the menopause. There is one kind of operation which has not been referred to, that is by leaving compression forceps on the stumps, as is done quite extensively in France and England. When the patient is very weak it seems to me an improvement to put on these clamps and thus rapidly finish the operation. In regard to the mortality and difficulty of the operation, I think that taking out the uterus is not so very much more serious, although much more difficult, than amputating the cervix. It cannot be so safely done so often by the inexperienced operator, for he is more liable to do something that will endanger the life of his patient. But when the operation is properly performed, the peritoneal cavity practically closed by the parts being brought together, the patient is left in as good condition for recovery as by a high amputation combined with the cautery.

DR. J. C. HOAG.—I have observed with a good deal of interest an apparent revulsion in feeling and opinion with regard to the

advisability of this operation. Only a few months ago, in conversation with a number of operators in England I found the operation was very generally decried, but since that time, from a perusal of the English journals, one gets a different idea of the opinion of the British operators. Some of them did not hesitate to say that in those cases which recovered there was no carcinoma.

In regard to the technique of the operation, I can only speak in the light of what experience I have had in practice on the cadaver, under the instruction of a prominent operator. I was instructed to begin the operation by opening the anterior and posterior culs-de-sac. This certainly seems to be an inferior method to the one described by Dr. Fenger, as affording opportunity for infection of the peritoneum. It has one advantage, however, and that is, it enables one to get his bearings better in regard to the relations of the parts, because one can surround the broad ligaments with the finger and find just where to pass the ligatures, and in this way I think the ligatures can be put in in a more accurate manner. The loss of blood is less, and after the removal of the uterus there is no trouble whatever from hemorrhage because it is *entirely* prevented by the accurately applied ligatures, whereas in the other methods there is often a considerable loss of blood. In a number of cases which I saw, the operation was practically bloodless.

DR. J. C. HOAG narrated the following history of a case of

#### PLACENTA PREVIA.

I might refer to a case which I attended recently in which there was one point of interest: it was a case of placenta previa which I saw a few days ago in consultation. I was called early in the morning, and on going to the patient found her in labor, the labor being a little premature by perhaps three or four weeks. She had suffered repeatedly from severe loss of blood during the last three months. At the time I saw her, the os was sufficiently dilated to admit one finger only, the periphery of the placenta could be felt throughout perhaps a fourth of its extent. She was having no particular hemorrhage at that time, but had been flowing all night. I endeavored, a few hours later, to introduce a Barnes' dilator, but failed because the cervix was very unfavorably situated, being so far back in the sacrum that it was impossible to introduce even a small dilator. I introduced a colpeurynter and left it for three or four hours, at which time the os was found to be pretty well dilated, and the remainder of the management was left to the other physician at his request, as he had not previously attended one of these cases. By external examination, palpation and auscultation, I had no difficulty in finding the exact locality of the feet; the other physician introduced his hand and with little effort was able to pass it into the uterus; he then seized the foot through the membranes, but had great difficulty in holding it. There was a good deal of difficulty in rupturing the membranes. I tried it before the introduction



of the colpeurynter, but gave it up and advised the physician to rupture the membranes wherever he could do so. He soon succeeded in doing this, and the case offered no difficulties afterwards. There was very little loss of blood. The patient was treated with two antiseptic douches per day, and has done very well since. The child is living.

DR. MERRIMAN.—How much hemorrhage was there after you introduced the colpeurynter?

—DR. HOAG.—Very little.

—DR. EARLE.—Did she get an intrauterine douche immediately after the operation?

DR. HOAG.—Yes, immediately: before the colpeurynter was put in and after the extraction of the child, and she has had no temperature above 99°.

## TRANSACTIONS OF THE GERMAN GYNECOLOGICAL SOCIETY.

SECTION XVIII. OF THE SIXTIETH ANNUAL MEETING  
OF GERMAN NATURALISTS AND PHYSICIANS.

HELD IN WIESBADEN, SEPTEMBER, 1887.

(Translated from the *Centralblatt f. Gyn.*, Nos. 41 et seq.)

(Continued from p. 1306, Dec., 1887.)

DR. AHLFELD (Marburg) read a paper entitled

DOES THE LIQUOR AMNII CONTRIBUTE TO THE NUTRITION OF THE  
OVUM?

In order to answer this question, it must be demonstrated (1) that some of the liquor amnii passes into the intestinal canal of the fetus by being swallowed; (2) that it contains nutrient substances, and (3) that the latter are absorbed. It is well known that the meconium contains a large quantity of vernix caseosa and very numerous downy hairs, the abundance of which was very clearly shown by the author on glass plates, on which diluted meconium had been poured and dried. The lanugo there present is evidence of the enormous masses of liquor amnii swallowed by the fetus and, as it is no longer present in the intestines, it must have been digested. The author had formerly shown by his investigations that the liquor amnii contains large quantities of

albumin, and submitted the results of nineteen recent examinations of liquor amnii made during the past year. The material was obtained by puncture from bags of water projecting into the external genitals and the albumin precipitated. These large amounts of albumin obtained from liquor amnii are sufficient, in the author's opinion, to justify the assumption that the liquor amnii which passes in such large quantities into the intestines indeed contributes to nutrition.

The second part of the author's deductions covers experiments intended to prove the occurrence of swallowing motions in utero. The new-born infant not rarely places at once a finger into its mouth and sucks. Sometimes, at birth, both hands and fingers show plain indications of intrauterine sucking. The author had some time ago demonstrated nearly rhythmical series of spasmodic movements of the fetus which, during the day, recur periodically, and had interpreted them as acts of swallowing (*Transactions of the Gesellschaft zur Foerderung der ges. Naturw. zu Marburg*, 1884). Reubold recently had concurred in this interpretation.

Of late, the author had demonstrated these movements graphically by means of funnels set upon the abdomen of pregnant women, and Marey's drum (the graphic tracings were exhibited), and at the same time had been able to record fetal movements which might possibly be interpreted as acts of sucking. The former movements (supposed acts of swallowing) appear as short elevations, recurring pretty regularly twenty to thirty times in a minute for a space of a few minutes, and then usually cease for a long time. The second form of movement shows on the curve almost rhythmical elevations, which recur from fifty to seventy times in a minute. That these movements are acts of sucking is, of course, an assumption based on a slight foundation. The author has been led to venture this supposition on the single fact that new-born infants, when sucking their finger during sleep, make about equally rapid, approximately rhythmical movements. It will depend on further investigations in this direction as to what other importance will be accorded to the liquor amnii in the physiology of the fetus.

DR. FEHLING (Basle) read a paper on

#### LAPAROTOMY DURING TUBERCULOSIS OF THE PERITONEUM.

He called to mind the increasing frequency of exploratory incisions in the case of abdominal tumors: this has gradually supplanted exploratory puncture, since it is less dangerous than the latter in the hands of an operator who is master of antiseptics. Of late years, partly owing to errors in diagnosis, partly after correct recognition of the morbid process, tubercular alterations of the peritoneal cavity have been met with more frequently than



formerly. The results attained in these cases are so satisfactory that they call for further procedures, all the more because their effects cannot yet be explained. In view of the rarity of similar reports, the author briefly sketched three cases recently operated upon, in order to append some general remarks.

*Case I.* was a nullipara who came under observation on account of amenorrhea and emaciation. Above the right Poupert's ligament was an orange-sized tumor, which was taken for the right ovary, owing to its pseudo-fluctuation; on both sides behind the uterus small nodules, no ascites. Malignancy suspected. Exploratory incision showed that the supposed tumor was the cecum, altered by tubercular infiltrations into a roundish mass; also the vermiform process, the neighboring coil of small intestine, and the mesentery were thickly sprinkled with tubercles; behind the uterus both tubes presented a rosary-like swelling.

Recovery undisturbed; temporary improvement.

*Case II.*—A nullipara, aged 24, had six months previously a severe attack of peritonitis. She had been sent with the diagnosis of ovarian tumor. Examination showed a tumor extending obliquely from the left anterior spine of the ilium across the umbilicus, partly deeply fluctuating, partly presenting distinct gurgling. Pleuritic symptoms having appeared before, a probable diagnosis of tuberculosis was made, and the abdomen opened with the intention of removing any encysted exudation possibly present. The intestines adhered to each other and to the abdominal walls over extensive surfaces, so that it was impossible, despite the long incision, to penetrate into the free abdominal cavity. The intestine was injured and sutured. Recovery; during the succeeding three months the body-weight increased eighteen pounds.

*Case III.*—Woman, aged 25 years; had had one child two and one-half years before; six months ago had been tapped for a rapidly increasing ascites, after which she remained bedridden for a long time with fever; on the left side a tumor developed with distinct fluctuation whose upper limit above the navel could not be clearly palpated. The diagnosis of an encysted tubercular ascites was confirmed at the operation; broad incision, drainage towards the vagina, sac stitched into the abdominal wound; intestines set with tubercles; a piece of the abdominal wall which was excised showed the presence of tubercles. Recovery and great improvement.

The author pointed out how greatly the forms of tubercular peritonitis coming under observation differed. Among the forty operated cases reported, only two occurred in men. In view of the frequency of genital tuberculosis in the male, it is difficult to understand why a primary peritoneal tuberculosis should not be at least equally common in the male. The author thinks, there-

fore, that it is exceedingly probable that even apparently primary peritoneal tuberculosis is really secondary, starting from the tubes. The diagnosis will often remain doubtful, since local signs are frequently absent, the lungs being still free; of great importance is, as in case I., the pseudo-fluctuation pointed out by Koenig. Of twenty-nine cases in which the details are given, twenty-one were instances of encysted tubercular ascites; of these, fifteen were cured (eight of them for more than one year), six died; of five cases with free ascites, two were cured, two improved. It is usually advisable to make a wide incision and if possible to drain towards the vagina. The curative effect does not lie in the antiseptic (iodoform, sublimate), but possibly in a micro-organism or bacterium, or simply in the improved circulation. It must not be forgotten that spontaneous recovery also takes place, just as the individual tubercle is curable. Nevertheless the author would not, like Kuemmel, look upon peritoneal tuberculosis as a local affection and place it in the same category with a tubercular joint disease; the anatomical relations are too different. The long duration of the processes, the apparent length of the recovery, are probably based on similar causes as those which produce the varying course in pulmonary tuberculosis. Hence the prospects after operation are not so hopeless as was believed at a time; in accordance with the view expressed above as to the etiology, the author sides with Hegar, that tubal tuberculosis should be operated on early if possible.

DR. SKUTSCH (Jena) read a paper on

#### INCISIONS AND HEMORRHAGES OF THE CERVIX UTERI DURING LABOR.

Cases are not very rare in which the indication is urgent to terminate the labor in the interest of the mother or child, while the cervix is not sufficiently dilated to permit the extraction of an unmutilated child. Withal, the dilatation may be normal, but not far enough advanced, or it may be pathologically delayed (rigidity of the os uteri, agglutination of the external os, insufficient dilatation associated with cramp-like pains). While the treatment is simple in those cases in which the obstacle lies merely in the os (bloodless dilatation, short incisions), if a rapid termination of the labor becomes necessary, forcible dilatation may be required also of a part or the whole of the canal above the external os. This can be effected only by free incisions of the cervix.

Short incisions in rigidity of the os uteri are largely recommended; deep incisions are generally cautioned against, owing to the dangers connected with them, such as infection, hemorrhage, and further tearing of the cuts. These cautions are perfectly justified when the cervical canal is still long. But in cases in which rapid termination of the labor appears necessary, and there is only narrowness of the lower segment of the cervix (from

the junction of the posterior vaginal vault downwards), the indications for incisions serving to hasten the labor and save the life of the child might be somewhat extended.

The danger of infection may be looked upon as done away with, since we have learned to conduct labors aseptically. The danger of hemorrhage, however, is considerable in cases in which the lower part of the cervix is not yet dilated and the presenting part exerts still insufficient compression on its walls. But the hemorrhage can be certainly controlled by a simple procedure, in incisions reaching no farther than to the vaginal vault. The procedure may be illustrated by a case of labor in which the necessity for rapid termination of the delivery arose in order to save the life of the child, at a time when the lower part ( $1\frac{1}{2}$  cm.) of the cervical canal had not yet dilated. The os having been exposed by a grooved speculum, six incisions, each about two centimetres long, were made with Schultze's bent scissors. Profuse hemorrhage occurred immediately from the first incision, and was arrested by suturing the wound surfaces. Button sutures all over the gaping incision united the cervical with the vaginal mucous membrane. The hemorrhage was arrested successively after each incision before the next was made. The threads were left long, so as to serve for subsequent traction. After these incisions, the opening enlarged sufficiently to permit the extraction of the child with forceps. The placenta having been expressed, two slightly bleeding lacerations which had occurred in continuation with the posterior incisions were closed with catgut sutures. The previous sutures placed for the arrest of hemorrhage were removed successively, and the incisions stitched with catgut. The child was living and puerperium normal. By proceeding as in the case cited, *i. e.*, by arresting profuse hemorrhage from an incision with sutures around the wound surface before making the next incision, the hemorrhage can be certainly controlled where the cuts extend to the junction of the vaginal vault. It should be permissible to cut open the cervix to that point when insufficiently dilated, for the purpose of rapidly terminating a labor where this appears necessary.

While in the case of rigid os small incisions into the tense ring are preferable, where the entire undilated lower cervical segment is to be rendered passable, it is advisable to incise first the right and left sides, if need be as far as the vaginal vault, and only when these cuts do not suffice to go in another direction, especially postero-laterally. After the labor is terminated, the temporary sutures for the arrest of hemorrhage are to be opened and the incisions closed by sutures like those used for recent cervical wounds.

When the incisions tear farther, the lacerations should be closed by suture, if possible; the threads which have been left long permit of rapid exposure of the field of operation. Should

a lateral incision have torn far into the parametrium and given rise to profuse hemorrhage, the uterine artery can be circumligated from the vaginal vault.

In a case of considerable hemorrhage from the right side of the cervix, the author performed this circumligation with an ordinary curved needle. Perhaps it might be better to make a small incision into the mucous membrane, and then to do the ligation with a blunt aneurism needle.

In all these manipulations, it is important to be guided by the eye. In obstetrical manipulations, this rule should be followed more generally than hitherto; the curved speculum should not be wanting in any obstetrical bag.

A search through the literature revealed a brief communication recording a case operated on by A. Martin, which must be mentioned; in a labor associated with cicatricial stenosis of the os, incisions were made, the wound margins stitched, and the uterine artery ligated to arrest a profuse hemorrhage. It should also be stated that suturing of the wound surfaces has been performed in dissection of the cervix in gynecological cases.

(To be concluded.)

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

---

*Wednesday, November 2d, 1887.*

G. E. HERMAN, M.B., *Vice-President, in the Chair.*

MR. BLUETT showed a hydrocephalic fetus. The circumference of the head was twenty-seven and one-quarter inches.

DR. W. S. GRIFFITH exhibited a specimen of hematometra and hemato-salpinx, in which a clot was seen, extending from the body of the uterus through both Fallopian tubes, and projecting a couple of inches from the fimbriated extremity of one of them.

Also a case of pyometra, which illustrated occlusion of the cervix by pressure of a fibroid.

Both these specimens were from St. Bartholomew's Hospital Museum.

THE PRESIDENT gave notice that a special meeting of the Society would be held on November 23d, commencing at 8 P.M., for the discussion of the subject of "Extrauterine Fætation."

MR. GEORGE LOWE described a case in which, during a difficult and painful menstrual period of a girl at 14, a painless tumor, the

size of a pheasant's egg, formed on the left vaginal wall. This proved to be connected with a large tumor filling the pelvis, and extending up to the umbilicus. There were no symptoms of constitutional disturbance. On vaginal exploration, no cervix could be found, but a small depression high up posteriorly admitted a catheter for two inches. On puncture of the vaginal tumor, a dark, treacle-like inodorous fluid escaped. The discharge ceased, all swelling disappeared, and the patient recovered.

DR. HERMAN thought the case was extremely like one of unilateral hematocolpos, *i. e.*, double uterus and vagina, one vagina being imperforate and the secretion of the corresponding uterus accumulating in it, while the patient menstruated through the other. Owing to the relations and characters of the parts being altered by distention, diagnosis was difficult in these cases.

“HYDROCEPHALUS AS A COMPLICATION OF LABOR.”

By J. G. SWAYNE.—After pointing out the rarity and dangerous nature of this complication, Dr. Swayne gave the particulars of seven cases occurring in his own practice, in three of which delivery took place spontaneously, and four required the assistance of art. In one of the former, the mother died apparently from the rupture of the uterus. This accident proved fatal in rather more than a fifth of the cases collected by Dr. Keith, the cause being the great stretching of the lower segment of the uterus, and the difficulty thus occasioned to the process of retraction over the head.

Dr. Swayne laid great stress on an early diagnosis of this complication and on the extreme danger of an expectant treatment, and pointed out the great importance of reducing the size of the child's head by puncture as soon as a correct diagnosis had been formed. He related cases showing the disastrous results which have arisen from delay or from attempted delivery with the forceps, owing to mistaken desire to save the life of the child.

DR. GERVIS wished to emphasize the importance of the method of examination by inserting the hand into the vagina so as to make sure of the presence of hydrocephalus before proceeding to operate.

He had met with cases of severe injury to the vagina from the forcible delivery of hydrocephalic heads, the condition not having been recognized.

DR. BRAXTON HICKS advocated the introduction of the whole hand into the vagina for the sake of diagnosis, not only in cases of hydrocephalus, but in all cases of ambiguity, so as to see exactly the want of relation between the head and brim.

DR. GALABIN mentioned a case which he had lately seen. The diagnosis was difficult owing to the slight development of the cranial bones and a comparative absence of hair on the scalp. The bimanual method, with the introduction of the whole hand into the vagina, easily revealed the large size of the head. In moderate degrees of hydrocephalus in which the bones were highly developed and the sutures widened, he had found the na-



ture of the case revealed by the blades of the forceps being widely apart when applied, and easily slipping off.

DR. PLAYFAIR said that while he fully indorsed all that had been said as to the importance of the subject of the paper, he must take exception to the statement that it had been insufficiently treated in modern text-books. In his own work, it had been fully considered, and he had pointed out the precise dangers, and advocated the same rules of treatment as the author of the paper. Suspicions of intrauterine hydrocephalus might be aroused by the peculiarly violent, almost tetanic, pains which result from the vain efforts of the uterus to make the presenting head engage the pelvis. When, from the experience of former labors or actual measurement, the dimensions of the pelvis are known to be normal, and the head refuses to enter the brim in spite of the violent pains, the patient should be thoroughly anesthetized and a thorough exploration made with the hand in the vagina. This would certainly lead to a recognition of the difficulty, and possibly to the prevention of disaster by early puncture of the head.

DR. BOXALL thought that in certain cases podalic version was advisable after evacuation of the fluid, and thought in the majority of cases it was unnecessary. In cases like that which Mr. Bluett had shown, the head was enormously distended and the bones at the vault widely separated.

If the base of the skull is brought down first, the bones of the vertex will fold together like a parachute.

DR. JOHN PHILLIPS had met with two cases of hydrocephalus, one presented by the head, the other by the breech. The former was complicated by hydramnios. The diagnosis was easy after rupture of the membranes, and perforation was followed by an easy labor. He found that 7.5 per cent of the total cases of hydrocephalus were complicated by hydramnios. In difficult cases when the breech presents, he thought that the plan recommended by Tarnier, to cut into the spinal column as near the neck as possible, and draw off the fluid by means of a catheter, was a good one.

DR. HORROCKS remarked that the diagnosis of hydrocephalus was more difficult in head-last labors than in cases where the vertex presented, as the bones at the base of the skull were not separated.

DR. GRIFFITH stated that it would conduce to the certain determination of the cause of frequent presentation of the breech in cases of hydrocephalus, if those who met with them would take the specific gravity of the hydrocephalic fluid. The specific gravity of the fetus was stated to be 1.055, and of the liquor amnii 1.010 to 1.015, while the specific gravity of the fluid which was drawn from the head of the fetus shown by Mr. Bluett was 1.010. This difference would amply account for the floating of the head to the top of the amniotic fluid, especially early on, when the fetus is mobile in the uterus. If the disease attacked the head when it was less movable in the uterus, the head, naturally dependent, might remain so.

DR. HERMAN spoke of the value of external palpation. By this means he thought it was easy to identify the head, and roughly judge of its size. A German writer, Brühl, had directed attention to what he called "*Eindruckbarkeit*" of the fetal head,

*i. e.*, the extent to which it could be pressed down into the pelvis with the hands, and he (Dr. Herman) believed this measure was of service in forming a prognosis as to the ease or difficulty of labor. If applied in cases such as those under discussion, the presence of a condition entailing difficult or impossible delivery would be at once recognized.

A CASE OF HEMATOMETRA ASSOCIATED WITH A DEGENERATING FIBRO-MYOMA TREATED BY SUPRA-VAGINAL HYSTERECTOMY.

was related by Mr. W. A. MEREDITH.

The patient, aged 46, had been subject to a large abdominal tumor for many years. In April, 1883, the patient, who had up to that date suffered from severe menorrhagia, was seized with pleurisy, and was confined to bed for eight weeks. Menstruation ceased from that date. She suffered from abdominal tenderness and severe attacks of spasmodic pain in the tumor, till she was admitted into the Samaritan Hospital, in December, 1886. The abdomen was then occupied by an enormous semi-solid growth, which was diagnosed as a uterine fibro-cyst. The vaginal portion of the cervix uteri was soft and unenlarged, its canal was occluded. The tumor, with both ovaries and tubes, was removed by supra-vaginal hysterectomy on December 17th, 1886, and the patient returned home quite well six weeks later. The tumor consisted of an enormously distended uterus, with a degenerating fibroid in its anterior wall. A cavity in this growth communicated by a large oval aperture, with the uterine cavity; both were filled with altered blood.

The posterior wall of the uterus was greatly hypertrophied. The entire mass weighed fifteen pounds, and must originally have contained at least five pounds of blood.

The complete and persistent retention arose from some cause effecting sudden occlusion of the cervical canal, probably inflammatory in its origin, and rendered permanent by partial rotation of the elongated uterine cervix during the patient's confinement in bed, in 1883.

The specimen demonstrates a somewhat rare incident in the life history of uterine tumors.

DR. GALABIN thought that one of the points of interest in Mr. Meredith's case was the bearing of such on the question of uterine distention with either blood, pus, or mucus, without absolute obliteration of the cervical canal. The rule was that, in actual stenosis of the canal, the uterus became hypertrophied to overcome the obstruction, and was not dilated. He had met with exceptions to this rule. In one instance, pyometra in an old woman was the result of retroflexion, and was cured by emptying frequently, by digital pressure.

DR. GERVIS had seen many cases of dysmenorrhea in cases of fibroid uterus, connected with more or less stenosis of the cervix, but no case of actual atresia. In a case of large interstitial



broid, which he removed by supra-vaginal hysterectomy last year, the interior of the tumor was found to be in a state of necrosis, and he would like to know if Mr. Meredith had often found this condition in fibroids, and whether there were any symptoms indicative of its occurrence. In Dr. Gervis' case, there had been none.

DR. HERMAN said that we ought not to base conclusions as to the effect of obstruction to the exit of fluid from the uterus on inferences drawn from cases like the present one. The question as to the effect of flexion was one of fact to be settled by observation. Some said that dilatation of the uterus was the result, others said there was hypertrophy; but no specimens existed that showed either dilatation or hypertrophy; cases in which the uterus was retracted, or which had undergone senile atrophy, being excepted.

DR. HORROCKS thought the case threw light on some cases of fibromyomata in which, years after, the climacteric uterine hemorrhages occurred. He suggested that the hematometra might be due to breaking down of the tumor which opened into the uterine cavity.

## REVIEW.

DISEASES OF THE SEXUAL ORGANS, MALE AND FEMALE. Arranged in eighty full-page colored lithographs and one hundred and sixty pages text. Royal folio. By J. A. JEANÇON, M.D. New York: John Beacham, 1887.

The work is issued in five divisions at five dollars each, and treats of the normal and morbid anatomy, the pathology, the physical diagnosis, and the treatment of diseases of these organs.

The presswork is excellent, the type clear and fair, and the paper good, but the size of the page, 19 by 13 inches, is objectionable, and could with advantage have been reduced one-half without detriment to any of the plates and with considerable gain in ease of reference. Of the plates, some are excellent and nearly equal to the originals, some of medium value, and some poor in coloring and details. The text, compiled from the works of many of the better known authorities of Germany, America, England, and France, shows much study and careful labor, but it is in certain respects somewhat superficial and incomplete, so that the student could probably expend its price to better advantage by investing it in some of the later special text-books on the subjects treated.

W.

## ABSTRACTS.

1. **Gusserow: Peri-uterine Hematocele** (*Archiv f. Gyn.*, XXIX., 3).—Eight cases of peri-uterine hematocele are recorded in this paper, and are discussed with special reference to the questions of differential diagnosis, etiology, and treatment. In only one of these eight instances was the site obviously in the broad ligament, and in three others this point was in doubt. Hematoma of the broad ligament is best recognized by the fact that its upper limits are crescentic, whilst it is with great difficulty that any tumor is recognizable in Douglas' fossa. In case of intraperitoneal hematocele, the upper limits of the tumor are ordinarily only to be determined when the accumulation of blood in the pelvis is large. The lateral situation of the tumor, and the fact that the uterus is not pressed forward against the symphysis, as it is in case of retro-uterine hematocele, but laterally, assists in diagnosis. As for the etiology of peri-uterine hematocele, Gallard's opinion, advanced in 1855, that hematoceles are very frequently the outcome of tubal pregnancies, has latterly been resuscitated. A review of current literature proves that this is not only possible, but has often been the case. In G.'s eight cases, this was a possible cause in four. Still, in none of these four instances was any trace of ovum detected at operation. G. is inclined to think that amenorrhea preceding the formation of a hematocele does not speak so much for the existence of a tubal pregnancy as that it is a cause of the hematocele. The cases reported by G. point to the accepted fact that hematoceles are not infrequently accompanied by disturbances of menstruation, either dysmenorrhea, menorrhagia, or amenorrhea. As for the treatment of hematocele, in the eight recorded cases, a free incision was made by the vagina, in no single instance was there sepsis; in all but one the recovery was complete and rapid, and in the exceptional case the sac refilled three weeks after operation. G. hence considers resort to active measures in case of hematocele the preferable course, and he favors incision *per vaginam*. This incision he cannot consider dangerous; it gives the patient immediate relief from the stringent symptoms, and in his experience the course of the affection is thus materially shortened. His custom is to incise the sac *per vaginam*, after precedent careful disinfection of this canal, to wash out the sac thoroughly, and then to place a drainage-tube in it and to pack the vagina with iodoform gauze. The after-treatment consists in irrigating the sac twice daily. Laparotomy in case of hematocele G. deems entirely unnecessary.

E. H. G.

2. **Frank: Extraperitoneal Extirpation of the Uterus** (*Archiv f. Gyn.*, XXX., 1).—Sixteen operations performed after this method are recorded, all the patients recovering. The technique of the method consists in shelling the uterus, so to speak, out of its peritoneal covering instead of incising this membrane, as happens when vaginal extirpation is undertaken after the usual method. The peritoneum offers the greatest diffi-

culty to being stripped off the uterus at the points where it is reflected from the neighboring organs, but afterwards, according to F., the step is not specially difficult. After removal of the organ, the inverted peritoneal coat is returned, and the anterior peritoneal layer is stitched with catgut to the posterior. The method has been tested by F. not alone in cases of carcinoma, but also in a variety of diseases of the uterus where, although the patient's life was not in danger, it was likely to be shortened through the loss of strength induced and the pain suffered. In such instances the patient must have reached an age when the uterus has ceased to be of special usefulness, and all other methods of treatment must have been tested without avail. Amongst F.'s cases are instances of degeneration of the endometrium accompanied by hemorrhage, of adherent retro-displacements of the uterus, and where, after precedent castration, there were still present symptoms from the side of the uterus. (It should be mentioned that Mundé proposed this very operation at a meeting of the New York Obst. Soc. on Oct. 17th, 1876 (JOURN. OBST., 1877), and reported his attempts to enucleate the uterus from its peritoneal envelope on the cadaver, with the result that he found it almost impossible to dissect out the body of the uterus. Although this method was followed by uniform recovery in all the recorded cases, we do not believe it will be accepted by any other operator as appropriate in any instance in which F. performed it aside from the cases of carcinoma. In the presence of carcinoma, extirpation of the uterus is justifiable; to resort to such radical means for the relief of the symptoms accompanying retroflexion with adhesions, for instance, seems to us to exceed considerably the bounds of proper conservatism.)

E. H. G.

**3. Runge: The General Treatment of Puerperal Septicemia** (*Archiv f. Gyn.*, XXX., 1).—In 1886, the author reported nine cases of more or less severe septicemia, of which eight recovered through resort to alcohol in large doses, lukewarm baths, rich food, abstinence from the administration of all antipyretics. He then claimed that through these means the resistance power of the organism against the septic poison was heightened to a degree not possible by any other means. The reasoning which leads him to favor the above method of treatment is the following: Local treatment of puerperal sepsis may prevent the entrance of septic germs into the organism, but it cannot reach those which have already gained access. We possess no means for killing these latter, and therefore we must increase the resistance power of the organism as much as possible. To this end of first importance is the tone of the digestive apparatus, and both alcohol and baths tend to keep this tone at par. Especial stress is laid on the fact that the baths are not administered for the sake of lowering the temperature, but in order to influence favorably the action of the heart, and of the lungs, and to improve the appetite. Experience has taught R. that the baths are not at all dangerous, even though the patient be in a state of collapse. As for the alcohol, its action is that of a direct heart stimulant, and it favors retrograde metamorphosis. Three additional cases of sepsis are recorded in this paper where this general treatment was carried out, and one patient died.

E. H. G.

**4. Theodor Landau: Ulcerations of the Female Urethra** (*Archiv f. Gyn.*, XXX., 1).—After an enumeration and brief description of the tumors of the female urethra, L. relates in detail the histories of five personally observed cases of rodent ulcer of this canal. The following are the salient characteristics of this infrequently observed affection. Clinically, in its early stages, its progress is so free from symptom as not to attract the attention of the patient. The ulcerative process, whilst slow, is continuous. Microscopically the affection may be differentiated from every new-growth, tuberculosis, carcinoma of this locality. The ulcerative process affects the mucous membrane and the underlying tissue, and does not tend towards cicatrization. In regard to etiology, four of these patients were syphilitic, and the fifth very probably so, and the chances are that the specific taint is at the bottom of the cause, whatsoever its nature, of the process. The diagnosis of rodent ulcer of the urethra may be made by noting the chronic course and limitation to the urethra, and by the fact that the process shows no tendency to cicatrization. The prognosis of the affection, as regards life, is not ominous, until the later stages when the bladder becomes patent to externals, when the organ may become infected and the infection may extend to the kidneys. As regards cure the prognosis is bad. In the cases which L. saw, the most that could be accomplished was to limit the extension of the process. The best means to this end is curetting followed by cauterization. Of the caustics, lactic acid has seemed the most efficient. Antisyphilitic treatment does not have any influence in checking the course of the affection.

E. H. G.

**5. Kleinwaechter: Ninety Cases of "One-Child" Sterility** (*Zeitschr. f. Heilkunde*, VIII.).—According to Ansell, this form of sterility is present in 1 out of 13 marriages. In 1,081 gynecological cases, K. met with one-child sterility in 90, or 8.32 per cent—a figure nearly similar to Ansell's. These 90 instances are reported in this paper, and analyzed chiefly in regard to etiology. The following table shows the probable cause of the relative sterility:

Inflammatory processes following on the puerperal state . . . . .	17.77	per cent.
Catarrhal endometritis . . . . .	17.77	"
Inflammatory processes aside from the puerperal state . . . . .	12.22	"
Displacements of the uterus . . . . .	12.22	"
Neoplasms of the uterus . . . . .	8.88	"
Constitutional factors . . . . .	7.77	"
Sexual weakness of the male . . . . .	7.77	"
Atrophy of the uterus . . . . .	5.55	"
Neoplasms of the ovaries . . . . .	3.33	"
Unknown factors . . . . .	6.66	"

As to whether the age at which the women were married played a rôle in etiology, the analysis of the cases would seem to answer the question in the negative. Thus:

From 14-17 years . . . . .	28.04	per cent	were married.
" 18-20 " . . . . .	43.78	"	"
" 21-25 " . . . . .	21.95	"	"
" 26-27 " . . . . .	1.21	"	"

It does not appear, further, that the age at which the single pregnancy occurred was an etiological cause, and the same remark holds true

regard to the year of married life at which conception ensued. In the cases the sterility had lasted:

5 years .....	in 32.22 per cent.
6-10 " .....	" 31.11 "
11-15 " .....	" 18.88 "
16-20 " .....	" 12.22 "
21-30 " .....	" 4.44 "

A final conclusion from the analysis of these cases is that in one-child sterility, even as generally in acquired sterility, we find the same causal factors, aside from congenital imperfections rendering conception impossible, as in case of absolute sterility. The views held by K. in regard to prognosis and treatment coincide with those generally accepted.

E. H. G.

**6. M. Reihlen: The Treatment of Retained Chorion** (*Archiv f. Gyn.*, XXXI., 1).—The question which R. aims at answering in this paper is as to whether in case of retention of the chorion it should be removed or left to the powers of nature. He utilizes for this purpose 3,534 labors occurring in the Stuttgart maternity during 1879 to 1886. In this interval, there were 152 instances of retained chorion, or 4.3 per cent of the total number of labors; and in 1,104 removal was resorted to; in 48 there was no interference. The size of the portion of retained chorion did not appear to have any special influence on the course of the puerperium. The following are the statistics in case of expectancy and of artificial removal:

*Expectant treatment* (104 cases): In 59 per cent, normal puerperium; in 7 per cent, slight absorptive fever; in 14 per cent, serious complications during the puerperium (one death).

*Active treatment* (48 cases): In 41 per cent, normal puerperium; in 5 per cent, slight absorptive fever; in 13 per cent, serious complications (one death).

Of the two deaths, in one the remnant of the chorion was removed after delivery, but the temperature rose at once, and the patient died on the tenth day of peritonitis; in the other, the remnant was not interfered with, the patient died of sepsis complicated with erysipelas, and the retained portion of chorion was considered a predisposing cause. It is further to be noted that in 15 of the 48 instances where active treatment was instituted it was either only partially or else not at all possible to complete removal. Of this number, only 3 (20 per cent) had a normal puerperium; in 10 there occurred septic fever; in 1 a slight, and in 1 a severe septic endometritis. It is questionable if in these cases the necessary repeated insertion of the hand into the uterus was not rather the cause of the fever than the retained remnant of the chorion. The general conclusions reached by R. from his analysis are: From the standpoint of the prevention of fever in the puerperium, the expectant treatment is referable. Involution is somewhat slower after the expectant than after the active treatment. After active treatment, there were more complications during the puerperium—the result possibly of the fact that pathogenetic organisms were carried, by the finger, from the vagina into the uterus.

E. H. G.

**7. B. . Schultze: The Diagnosis and Loosening of Peritoneal Adhesions in Case of Retroflexed Uterus and Prolapsed Ovaries**

(*Ztschrift. f. Geb. u. Gyn.*, XIV., 1).—In this paper S. makes a further plea in favor of the loosening of adhesions by combined manipulations through the rectum and the abdomen. In the large number of cases in which he has used the method, there has never resulted inflammatory trouble or hemorrhage; he never resorts to the method except under anesthesia, and he insists on absolute rest and routine prophylactic measures for some time afterwards. He states that his method has neither been rightly understood nor properly appreciated, and we therefore give the steps, in brief, as follows: The bladder and rectum are thoroughly emptied, the patient is deeply to anesthetized and occupies the dorsal position with sharply flexed and abducted thighs. The operator inserts the middle and index fingers into the rectum above the folds of Douglas. It is of great assistance to irrigate the rectum with lukewarm water during the manipulations. The external hand is pressed through the abdominal walls till it grasps the fundus, and under its control the fingers in the rectum lift the uterus upwards with force insufficient to rupture the adhesions, but sufficient to stretch them. Slighter adhesions are usually found to yield to the pressure of the fingers. Broader adhesions are stretched by the ends of the fingers somewhat after the manner in which the adherent placenta is loosened from the uterine wall. These and other steps of the combined manipulation in case of the retroflexed adherent uterus are exemplified in this paper by the recital of a case. After reposition, it is S.'s custom to insert a figure-of-eight pessary. Towards loosening of the adherent prolapsed ovary similar manipulations are adopted, the chief aim being to detect by the fingers in the rectum a depression into which the finger tips may be inserted underneath the organ so as to lift it up and exert pressure upon the adhesions. Often it will be found easy thus to loosen the adhesions and to render the ovary normally movable, but frequently repeated attempts are necessary.

The point is emphasized that this method does not aim at forcible reposition, which is condemned, but purely at loosening of adhesions through careful bimanual stretching. The uterus and ovaries are thus freed and made movable, when they are replaced and held in good position by means of a figure-of-eight or cradle pessary, occasionally assisted by an intrauterine stem.

E. H. G.

---

## ITEM.

---

A SECTION OF THE N. Y. ACADEMY OF MEDICINE TO BE DEVOTED TO THE DISCUSSION OF DISEASES OF CHILDREN has been organized. Dr. J. Lewis Smith has been elected chairman, and Dr. J. Henry Fruitnighat secretary of the section for the year 1888. The meetings of the section will be held on the fourth Wednesday of each month, excepting the usual summer vacation.



THE AMERICAN  
JOURNAL OF OBSTETRICS  
AND  
DISEASES OF WOMEN AND CHILDREN.

---

VOL. XXI.] FEBRUARY, 1888. [No. 2.

---

ORIGINAL COMMUNICATIONS.

CHRONIC ANEMIA AND WASTING IN NEWLY MARRIED  
WOMEN.

SOME OF THE CAUSES OF THEIR PERSISTENCE AND INCURABILITY.

---

BY

W. W. JOHNSTON, M.D.,

Washington, D. C.

---

CONFIRMED ill health is so common after the establishment of the marriage relations and after childbirth among American women that any observations bearing upon this point will be of interest.

There are a large number of these cases dependent upon overexertions and disease in the genitalia, but a considerable number are unconnected with local disease, and in many others the health is never regained after all local phenomena have been cured. The principal manifestations of this persistent ill health are chronic anemia, with malnutrition, and impaired or deranged function in all the organs, especially in those of the nervous system.

Two cases of this kind are here given, the one of chronic anemia and malnutrition following childbirth, with ultimate improvement, but incomplete recovery; the other of chronic

Read before the Washington Obstetrical and Gynecological Society, February 20th, 1887.



anemia and malnutrition in a sterile woman, the symptoms developing soon after marriage and lasting for twelve years with but partial improvement up to the present day.

Mrs. W., in 1881, gave birth to a healthy child. Her previous health had been exceptionally good, and immediately after marriage she began a very extended journey involving great fatigue and lasting the greater part of a year. She returned to Washington, pregnant, and was soon confined. Up to the time of childbirth she was apparently in good health. She was a blonde with a pale skin, but her body was well nourished and she showed no muscular debility and no derangement of the nervous system. Labor was normal, and at the end of two weeks she was up in her room. But at this date she was pale, anemic, and feeble, and she had lost some, but not much flesh. After the second month the anticipated gain in strength did not come. At about the fourth week the uterus was examined, involution was less advanced than it should have been at this stage. The uterus was retroverted and the cervical mucous membrane slightly reddened. The vagina was pale, relaxed, and there was an abundant leucorrhœa. Tonics and fortifying diet were ordered, hot vaginal douches given twice daily, and a good deal of rest insisted upon. After the month she began to take drives, but as she seemed more exhausted than refreshed by these they were continued very irregularly. She nursed her baby for a few weeks and this was finally abandoned. Rest became more and more a feature of the treatment as her debility continued, and the anemia became more decided. After two or three months, the uterus was more contracted, in a healthier condition, but still retroverted. After using absorbent cotton supports for a considerable time, a soft ring pessary was tried, but she derived but little comfort from its use. In time all local treatment was given up, because the local condition no longer required it, and because her general symptoms became the prominent feature in her case. These general symptoms were continued and progressive anemia and weakness, loss of appetite, indigestion, constipation, and certain nervous symptoms which finally overtopped everything else as a cause of suffering. After a summer spent away in the effort to regain health, she returned to the city. At this time, one year after her confinement, she was more anemic and enfeebled than before; the slightest exertion brought on exhaustion and she was not able to walk except about her room. She was now subject to violent attacks of pain beginning in the precordial region and extending to the shoulder and down the left arm; also to sudden and violent paroxysms of pain in the ball of the thumb of the left side. These attacks were so in-

ense that they produced dyspnea, and threatening syncope. Beginning suddenly, they would last from half an hour to an hour, sometimes longer, and would be relieved by hypodermic injections of morphia only. Sometimes paroxysms of intense pain in the back of the neck would also occur. Vomiting of food was another distressing symptom.

The treatment to which she was subjected now consisted in a very careful regulation of all the details of her life. She was confined to bed all the time for about two weeks, after this she rested in the recumbent posture the greater portion of the day; a diet was ordered of nutritious and easily digested articles of food, various changes being made in the diet according to circumstances, a tonic of phosphoric acid, hydrochloric acid, pyrophosphate of iron and strychnine was given without interruption for several months, rubbing, but not massage, was employed daily, and central galvanization of the spine with galvanization over the seat of pain were used, both as a tonic and to relieve the pain at the time of its occurrence.

Under this treatment improvement went on very slowly. The severe neuralgic pains, which were the most distressing symptoms in the case, disappeared in a few months. The digestion gradually improved, but the anemia persisted. In six months, some gain had been made in flesh and in color. One year after the beginning of this plan of treatment and two years after her confinement, her health had improved. She was much stronger, was able to walk and drive, the anemia was less marked, but the normal color of the skin and conjunctival mucous membrane had not been restored. Now, four years after her confinement she has regained most of her lost flesh, has a moderately good color, but she has not the appearance of full health, nor is she as well as before her marriage.

The *second case* is that of a young married woman who was in good health before marriage, never having shown evidences of illness or ill health. She had a good color, weighed enough for a girl of her age; her thorax was not large, and the lower part of it especially was contracted. Whether this came from too tight lacing or not is a question which I have not been able to determine. Soon after marriage she began to fail in health, lost flesh, color, and complained of pain at her periods, backache, loss of appetite, indigestion, and constipation. She did not become pregnant, and such symptoms under such circumstances led, of course, to the opinion that the uterus was at fault. An examination showed that the uterus was enlarged, the cervix reddened, a discharge of muco-pus coming from the os. Treatment was directed to curing this condition, and to improving her nutrition. To condense very much a history which ex-

tends over about twelve years, I will say that for the greater part of a year she was under my treatment; the condition of the uterus improved, with very little improvement in her general condition. Afterwards this treatment was suspended, but during my absence from the city, she consulted another physician, who treated her locally for a long time. I think also she was subsequently under the care of another still. The local treatment instituted and continued was of service to her, so much so that in time she had no evidence of any local disease in the pelvic organs. She ceased to complain of pain at her periods, of backache and leucorrhea, but never at any time had she gained in any other direction. On the contrary, year after year there had been a gradual decline in health; the anemia and innutrition became more positive. The appetite was never great, but she took enough food to have given her more fat and blood; but, instead of this, her pallor increased, and she lost flesh to the point of being markedly thin. There were no nervous symptoms at this time.

Three years ago, while at a mountain hotel, she had frequent attacks of violent pain in the chest about the middle of the sternum; this, with increasing weakness, led her to return home.

After her return she suffered intensely with paroxysms of pain, from two to four daily, occurring at no special hour, and having no relation to food. The pain was in the sternal region, extending into the thoracic cavity towards the back, or seeming to the patient to have this distribution. The pain was severe enough to require the hypodermic use of morphia, or an opiate internally to allay it. At one time, morphia was given from two to three times daily, in anticipation of the attacks, to ward them off. External counter-irritants or sedative applications produced no effect. Electricity and galvanism gave no relief. The uterus was enlarged, but not inflamed, and her menses were normal. She was very bloodless at this time, the heart-beat feeble, and the extremities were frequently cold, especially during the paroxysms of pain. Tonics containing iron, quinine, and strychnine, and a very nutritious diet were ordered, and rest was insisted upon, not absolute rest in bed, but she did not leave her room. In two weeks the pain was relieved, but little change had taken place in the anemia, and no gain in flesh had been made. She began to go out and gained in strength. From this date—the autumn of 1884 until the summer of 1886—her condition remained about the same. She led quite an active life, going about, attending to her duties of housekeeping, and showing no fatigue after moderate exertion. She was quite thin and very anemic, the skin being pale, and the conjunctivæ bluish-white; the extremities generally cold. Her sleep was

stless. The appetite was moderately good, or rather she was able to take quite a good quantity of food of a very nutritious character. The bowels were constipated. The pains in the chest returned at intervals, and by October she was having proxysms every day, sometimes twice a day. The pain was seated in the epigastrium, or more frequently in the thorax in the middle or lower end of the sternum. The intensity of the pain increased to such an extent that it seemed unbearable, and was not relieved by any external application, and, after resting from half an hour to an hour, sometimes longer, would pass off. No recourse was had to morphia.

I had been for a long time anxious to have the patient submit to a prolonged rest treatment, with enforced feeding, but could never gain her consent. Finally she consented to make the trial if she could obtain no relief from a continued course of galvanism. For six weeks, therefore, she was under the care of an electrician, who treated her daily, but the pain was not relieved; on the contrary, she grew worse from week to week. Finally, in January last she went to bed and remained in bed for six weeks. During this time she was kept absolutely quiet, she was not allowed to read or write, and saw no visitors. A diet consisting of milk, raw scraped beef, rare meat, bread, and one or two vegetables, with orange juice, was ordered.

Iron and arsenic tablet triturates were given, and later a mixture containing lactate of iron, phosphoric and hydrochloric acids, and strychnine was substituted for this and continued without interruption for three months.

The attacks of intense thoracic pain were not relieved for three weeks. For a day or two there would seem to be a cessation, but they would return at intervals with unabated violence. Morphia was given hypodermically two or three times; morphia suppositories were given for a week, and then codeine suppositories were used for a week longer. Finally the pains ceased entirely. From this time, during the remaining three weeks of her stay in bed, she took her food in full quantity five times daily. Rarely was there any indigestion, but constipation was the rule. For this an aloin, strychnia, and belladonna pill was given from two to three times a week at night. There was quite a rapid gain in strength; the anemic pallor diminished slowly, but still there was no return of the natural color of health, nor was there any perceptible gain in flesh. The circulation improved, the extremities being less frequently cold. Massage was used for three weeks after the cessation of the pain, but the effect of this remedy was never pleasant to the patient. She had the greatest repugnance to it, and complained of the fatigue and annoyance it caused her. It was, therefore,

discontinued when she began to get out of bed. This she did at first for an hour daily, and for two weeks longer did not remain up all day. As her strength improved, she began to walk about her room, and about April 1st resumed her ordinary habits to a limited extent, driving for a short time each day, and going down to her meals. Her appetite improved, and the bowels were moved regularly. The quantity of food taken daily was quite equal to that of a perfectly healthy person leading an active life, and everything was most nutritious and digestible.

At this date, four months after this treatment was begun, the results are: increase in strength, complete relief of all pain, great improvement in morale, but in view of the large amount of food consumed daily, its complete digestion and apparent assimilation, the gain in flesh and color may be considered insignificantly small. She is still thin, still anemic, with very slight progress from week to week in these respects.

#### *Causes of the Persistency of Anemia in Women.*

Women are more liable to anemia than men: but they bear anemia better and are, as a rule, more readily cured. The physical changes in the appearance of women, from health to ill-health, are more sudden, more frequent, and more marked. But there are cases in which broken-down health is not restored. This, commencing most frequently after marriage or after child-birth, and continuing during lactation, does not disappear, but resists all efforts at complete cure. In the two clinical records which are given, this result is exemplified.

In both, anemia was marked and was complicated by nervous symptoms of a severe type. In the first case, the progress was slow and has resulted in partial cure. In the second, after years of uninterrupted care and with every help, the patient continues anemic and marasmic, with no hope of ultimate cure, and with the prospect of relapse, under unfavorable conditions, into worse symptoms.

The question as to the causes of this obstinate resistance to treatment in many cases, and the incurability of others, is one of great interest. Why it is that, with the consumption of a large amount of albuminous food daily, its apparent digestion and absorption, and with no evidence of organic disease, there is yet no increase in volume of blood nor in its richness, and no gain in tissue, is a problem which anatomical investigation has

not yet fully solved. Still there are facts which bear closely on this point, and which go far to solve the problem.

"The organism once affected by severe anemia possesses only a limited power of regenerating those blood constituents which it has lost. The capacity of the digestive apparatus for assimilating nutriment and the productive activity of the cytogenic organs are restricted within definite limits, which are further narrowed by the anemia itself" (Immermann). Blood cannot be normally made without a definite state of tissue growth in the blood-making organs.

The renewal of the tissue, out of which blood is made, requires a supply of rich blood pabulum, but as the digestive, assimilating, and secretory functions are imperfect from a diminished or thin blood-supply, the blood is poorly furnished with the elements for tissue renewal.<sup>1</sup> In this vicious circle the disease is the obstacle to curing the disease and prolongs it. That this condition is not permanently effective is proven by the fact that anemia does get well by sarcharging the blood with the results of digestion and by the gradual preponderance of growth over waste, but that sometimes such a result cannot be reached is not to be wondered at.

Bauer's experiments have proved that destructive metamorphosis of the tissues is increased in anemia. The excretion of urea is increased in anemic animals both in the fasting and fed state. Jürgensen has observed the same increase in anemia in man, proving that anemia is attended by a disproportionate waste of tissue.<sup>2</sup> It is true that in anemia there is often no waste of fatty tissue and sometimes an increase of it. (Wagner.) Animals often grow fat after loss of blood, and cattle breeders, taking advantage of this, are said to fatten cattle by occasional bleedings. That this gain in fat occurs, I have recently seen a proof of, in a case of a phthisical patient, a woman, who, with a progressive anemia, has from full feeding and inactivity accumulated a large amount of adipose tissue in a few months.

The pathological anatomy of anemia is very meagre, but

<sup>1</sup> Artificial gastric juice, prepared from animals suffering from anemia, does not digest albumen as well as gastric juice from healthy and well-fed animals.

<sup>2</sup> The diminution in the volume of the blood causes more fluid to pass from the tissues into the blood, hence the tissues in anemia shrink both from destruction of their elements and from loss of their water and salts.



enough has been learned of the changes in the tissues to show that the causes of chronic incurable anemia are to be found in permanent and incurable lesions. If the true lesion, lying at the bottom of the failure to reproduce red corpuscles were known, the faulty nutrition and inanition would be easily understood. The causes which primarily induce anemia are different from those which prolong it. When anemia has been brought about by imperfect food supply, indigestion, pregnancy, labor, and hemorrhage, lactation, or other causes, the anemic organs, from insufficient supply of blood, become inactive. The nutritive exchanges diminish, the organ is imperfectly nourished, is reduced in size, and its elements shrink and ultimately undergo fatty degeneration. This, the ultimate state of all imperfectly nourished and inactive tissues, is the inevitable result of prolonged anemia, and, with an actual loss of tissue, there can never be a return of the former perfect physiological activity. Perl bled dogs copiously at intervals of five to seven days; at the end of two months fatty degeneration of the muscular structure of the heart was found.

Manassein noticed in animals rendered anemic by starvation extreme fatty degeneration of the epithelium of the kidney, liver cells, voluntary muscle, and muscle of heart.

Ponfick described a diffuse form of fatty degeneration of the heart which he called "anemic fatty heart," and says it occurs in connection with every variety of protracted anemia. There are patches, yellowish and opaque, situated in the *muculi papillares* which are in an advanced state of fatty degeneration. The same change was found in the intima of the aorta and large arteries; sometimes in the middle coat, and sometimes in the capillaries, especially in those of the brain. Ponfick found also fatty degeneration in the epithelium of the kidney, in the hepatic cells, and in the epithelium of the gastric tubular glands. These changes are alike in seat and character with those found in animals subjected to copious bleeding or starved to death.

The heart and vessels are again materially altered in anemia apart from degeneration of their structure. It has been demonstrated, experimentally, that closure of the coronary arteries of the heart causes a slowing, then an irregularity of the heart's pulsations; the ventricles finally become completely relaxed. An impoverished blood-supply in small quantity to the heart



muscle leads to feeble heart beat; this condition would be corrected by enriching the blood, but if anemia is chronic, the heart and vessels undergo a reduction in size, which may become a permanent barrier to recovery. "One result of diminution of the amount of blood by hemorrhage is that, in a short time, the heart and blood-vessels become positively narrower than they were before the loss of blood." (Wagner.) Permanent reduction of the volume of the blood stream results in permanent contraction of the vessels and heart. Virchow's explanation of the incurability of cases of chlorosis is that there is a congenital narrowing of the aorta with wave-like elevations of the intima and extensive fatty degeneration.

Another condition, which is not altogether demonstrated as a cause of inanition and anemia, is the long-continued pressure on the pancreas, bringing about narrowing of its duct and adhesions which prevent a free outflow of its secretion.

There is another lesion, quite frequently found in chronic catarrh of the bowel, which may come to be a cause of incurable anemia, although it is usually believed to be the result of chronic catarrhal inflammation, yet analogy and observation seem to show that it may occur independently of any catarrh, as a result of limited food supply. This is chronic contraction of the colon, with or without thickening of its walls.

While this lesion has not been connected with anemia where the bowel is free from organic disease, yet I believe it to be a frequent result of long-standing anemia associated with gastrointestinal indigestion, in which condition the patient takes food in small quantity and of a very nutritious character, with a small amount of waste. The bowel, thus having a limited function to perform, in the progress of time diminishes in calibre.

In a patient suffering from chronic indigestion and anemia, whom I have had care of for ten years past, the fecal movements have lately become very much altered. They are now long rounded solid masses, about the size of a pipe stem. I have examined her carefully for stricture and can find none, and there is no pressure from without to be found. She is obstinately constipated, and has been so for years. It is reasonable to conclude that, in those cases where a diet of milk, beef-juice, raw beef is kept up for a series of months, and where intercurrent attacks of acute indigestion require almost abso-

lute deprivation of food for a time, there will be developed in time a narrowing of the whole digestive tube from the esophagus to the anus. This condition once established is progressive, incurable, and is a permanent obstacle to the cure of wasting and anemia.

#### INTERSTITIAL SALPINGITIS.

---

BY

H. J. BOLDT, M.D.,

New York.

---

THE inflammatory processes occurring in the Fallopian tubes have usually been divided by observers into catarrhal salpingitis and salpingitis. A. Martin, in his book on the "*Pathologie und Therapie der Frauenkrankheiten*," second edition, makes use of the term interstitial salpingitis, which seems to be in accordance with the pathological features, and, I think, ought to be adopted. In a large collection of pathologically changed tubes, I have found a number of features which give a variety of changes in the walls of the tubes, either not mentioned by other writers, or alluded to in a rather cursory way, and I propose to describe these changes in the present article, the more so as they seem to me to serve for settling certain mooted questions in general pathology.

Inflammation of the tubes is, according to my personal observation, never a primary disease; usually it is transmitted from the uterus. The inflammation may invade only the mucosa of the tube or the whole of its wall. In the first instance, it may be catarrhal or purulent, varying in degree from a slight change of the columnar epithelia and the subjacent connective tissue up to a considerable infiltration of this tissue, combined with a profuse new formation of pus-corpuscles from the epithelia. In the second instance, the inflammation is interstitial, first invading the connective tissue between the muscle-bundles, again varying in depth and intensity from a slight inflammation to a partial destruction of the walls by suppuration.

It is impossible to draw an exact line of distinction between catarrhal and suppurative salpingitis of the mucosa, since the morbid changes differ only in degree, and very probably in the infective agent invading the epithelia.

In comparing salpingitis with urethritis, we find a difference only in the intensity of the process so far as the mucosa is concerned. A simple catarrh will not infrequently yield the same symptoms, the same combinations, and accompanying diseases in catarrhal as in gonorrhoeic or purulent urethritis; nevertheless, we know that the infection in the first instance must have been entirely different from that in the second case. The amount of a purulent discharge may be the same in a severe catarrhal and a mild gonorrhoeic infection. Both may be confined to the mucosa and its epithelial cover. The sequelæ, however, are different, inasmuch as a simple catarrhal inflammation will rarely extend beyond the superficial layers of the mucosa, and consequently pass away comparatively rapidly, whereas gonorrhoeic inflammation often causes complete infiltration of the mucosa and the deeper portions of the interstitial connective tissue, leading to a partial destruction of the mucosa with subsequent cicatrization, or a diffuse hyperplasia of the mucosa with narrowing of the passage, or at least its atrophy to a varying extent.

The diagnosis of catarrhal salpingitis can be established under the microscope, when the epithelium is moderately swollen, with a slight augmentation of the nuclei, and a vacuolation of the protoplasm. The latter feature seems to be especially characteristic, for it leads to the production of mucous corpuscles which are the offspring (of the protoplasm) of the epithelia themselves. The connective tissue building up the folds of the mucosa is in a condition of edematous swelling or of slight infiltration with inflammatory corpuscles; the blood-vessels being at the same time dilated and filled with blood-corpuscles. These changes are never distributed uniformly in the mucosa, since unchanged folds may alternate with folds that show an inflammatory infiltration in their connective-tissue portions, but no changes in their epithelial cover and with folds markedly swelled and changed in all of their constituent tissues. Purulent inflammation will show the epithelia crowded with inflammatory corpuscles which, after being thrown to the outer surface, represent pus-corpuscles. Portions of the folds may be desti-

tute of epithelia to a varying extent, though this appearance must be accepted with caution, as the mechanical injury done by the cutting instrument may have contributed toward the removal of covering epithelium. It is in the latter instance, viz., in suppurative salpingitis that a gonorrhoeic or a septic infection is always the exciting cause. Obviously an intense catarrhal as well as a suppurative salpingitis may extend into the walls of the tube and thus become an interstitial salpingitis. It is also possible that a catarrhal salpingitis may quickly change into the purulent form, by intense abrupt irritation; for instance, incautious injections of medicaments into the cavity of the uterus or incautious manual examination. In all instances we would consider the mucosa of the tube, the primary and the interstitial tissue of the muscular coat as the secondary seat of the inflammation, though in cases of gonorrhoeic and septicemic infection in puerperio the disease may run such a rapid course that the first localization in the mucosa of the tube may not be traceable, both the superficial and deep inflammation appearing almost simultaneously.

The first anatomical sign of interstitial salpingitis is the edematous swelling of the connective tissue between the bundles. See Fig. 1.

No. 319.—Pt. æt. 23, married four years. Never pregnant. Menstruation began at 18 years. Has been very ill one year, but has suffered some for nearly four years. Pain in abdomen, lumbar region, and hips. Cannot walk without experiencing severe cutting pains in the ovarian regions and hypogastrium. Much headache; menstruates regularly every four weeks, three days' duration; large amount of blood and some clots. The dysmenorrhea is very intense. Before marriage, functions of generative organs normal. Profuse thick, yellow leucorrhea.

I will here state that all patients with tubal disease which are operated upon by me, either at their home or in the hospital, have been subjected to appropriate treatment in my clinic or in private practice a sufficient length of time (*from four months to one year*) to cause me to feel satisfied that nothing but an operation would give them a chance to regain health. The only exception to this rule is when I diagnose a pyo-salpinx following or accompanying the puerperal state: to such patients I always advise an *immediate* operation.

In edema of the tubes the diameter of the walls is increased.

The spaces between the muscle bundles are widened and filled with a delicate fibrous connective tissue, whose bundles are pushed apart by a serous exudate which, under the microscope, appears in the shape of a finely granular mass resembling coagulated albumen. The blood-vessels are considerably expanded and engorged with blood-corpuscles. The latter feature is conspicuous not only in the large arteries and veins near the

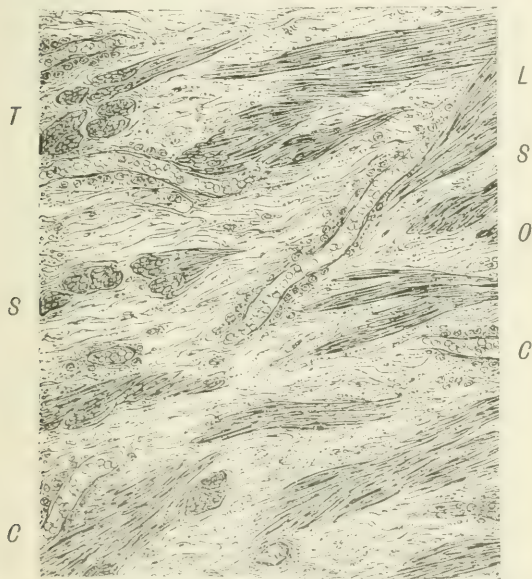


FIG. 1.—EDEMA OF THE INTERSTITIAL TISSUE IN PURULENT INFLAMMATION OF THE MUCOSA.

L, longitudinal; O, oblique; T, transverse sections of bundles of smooth muscle-fibres; C, capillary blood-vessels widened and filled with blood-corpuscles; S, serous infiltration of the interstitial connective tissue.  $\times 200$ .

peritoneal surface of the tube, but also in the finest capillaries of the connective tissue which, in this situation, have assumed a tortuous course and are filled with a varying number of blood-corpuscles. Higher powers of the microscope plainly reveal the fact that the serous exudate has accumulated in the interstices between the delicate bundles of the fibrous connective

tissue. In some places, the serous infiltration is the only appearance recognizable, while in others the connective tissue shows the initial stages of an inflammatory infiltration. Most of the widened capillaries and veins are surrounded by clusters of inflammatory corpuscles, of which we may safely assume that they are emigrated, colorless blood-corpuscles. Aside from these leucocytes, another source of inflammatory corpuscles is found in the bundles of the connective tissue themselves, especially in places where the edematous swelling is not very prominent. Here we observe the return of the basis-substance into granular protoplasm in which a certain number of corpuscles are at first dimly recognizable, not yet bearing any resemblance to leucocytes. By a division of such clusters arise sharply circumscribed corpuscles which, after becoming nucleated, look exactly like leucocytes and are now termed inflammatory corpuscles. We can trace the origin of such corpuscles not only from the previous nuclei of the connective tissue, but from the basis-substance also. The number of the inflammatory corpuscles varies greatly in different portions of the interstitial tissue. In some places, they are scanty, being intermixed with bundles of fibrous connective tissue as yet little altered; whereas, in other places, they are numerous and clustered together in nests. In places of this description, only a trace of the previous fibres is visible, and almost the whole basis-substance appears reduced into a protoplasmic condition.

The next stage of acute interstitial salpingitis is marked by a considerable number of inflammatory corpuscles with a simultaneous breaking up of the smooth muscle-fibre into such corpuscles. See Fig. 2.

The patient from whom the specimen was taken gives the following history in brief:

CASE No. 340.—26 years old; married seven years; no children; three abortions, all between the second and third month of gestation, caused, she thinks, by heavy lifting or falls. She has had numerous attacks of peritonitis (local?), her description points to general. Has been ill four years, complaining of pain in the ovarian regions, and lumbar pains; dysuria; menstruation every three to four weeks lasting three to four days; flow profuse; intense dysmenorrhea; profuse leucorrhea, milky in consistency and color. The right tube, which was distended with pus and had thickened walls, and the ovary were removed by operation



with satisfactory result in every respect. The left tube was, macroscopically, only in a condition of moderate catarrhal salpingitis, for that reason it with the slightly cystic ovary was left in situ.

Under the microscope, the epithelia of the mucosa appeared crowded with inflammatory corpuscles and partly destroyed after having been transformed into pus-corpuscles. The folds of the mucosa were enormously swollen and crowded with in-

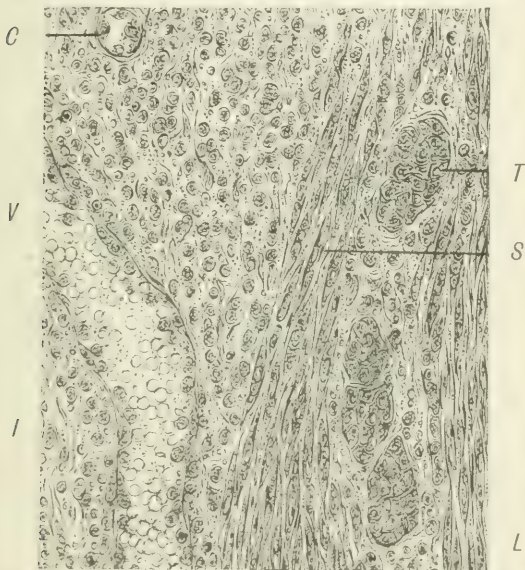


FIG. 2.—ACUTE INTERSTITIAL SALPINGITIS CAUSED BY PURULENT INFLAMMATION OF THE MUCOSA.

C, capillary blood-vessel with enlarged and coarsely granular epithelium; V, vein engorged with red and colorless blood-corpuscles; I, inflammatory infiltration of the connective tissue; L, longitudinal bundle of smooth muscle-fibres with augmented nuclei; S, spindles of smooth muscle-fibres broken up into a number of inflammatory corpuscles; T, transverse section of a bundle of smooth muscle fibres which are partly coarsely granular and partly transformed into inflammatory corpuscles.  $\times 500$ .

flammatory corpuscles, in some places to such an extent that no boundary line was recognizable between epithelium and connective tissue. All vessels were expanded and filled with blood-corpuscles. The interstitial connective tissue of the



muscle layer in some places appeared to be scantily, in most places, however, was richly supplied with inflammatory corpuscles. The latter must have originated, to a great extent, from the connective tissue itself, since all the stages of their formation previously described were traceable. The bundles of the smooth muscle-fibres were considerably reduced in bulk—a condition which most writers term simply a “melting away” (*schmelzen*). Closer observation, however, proves that the muscle-tissue itself shares in the formation of inflammatory corpuscles. At first, the nuclei of the muscle-fibres are split into smaller granules or lumps, whereby the transverse diameter of the fibre is increased. Next, the whole spindle appears to be broken up into solid lumps of varying sizes, and at last the spindle is transformed into a row of inflammatory corpuscles, the origin of which from a muscle-fibre is recognizable by the spindle shape. Thus a considerable number of muscle-fibres are directly transformed into inflammatory corpuscles which look the same as those sprung from the connective tissue. Similar changes can be made out in transverse sections of muscle-bundles.

The inflamed tissue of the tube remains a tissue so long as the connection between the inflammatory corpuscles remains unbroken. As soon as this connection is severed, the result will be either a diffuse purulent infiltration of the walls of the tube, or the formation of circumscribed nests of pus-corpuscles, *i. e.*, of an abscess. In the case from which Fig. 1 was taken, a small cavity was found which represented a so-called miliary abscess, surrounded by a layer of dense and freely vascularized fibrous connective tissue. The name “follicular salpingitis,” applied to this process, I would consider a misnomer and misleading. Interstitial salpingitis is the initial form also of tuberculosis, either miliary or diffuse.

Chronic interstitial salpingitis may become formative, leading to a new formation of fibrous connective tissue after more or less destruction of the muscle tissue, and this form, which results in a thickening of the tube-walls, is the hyperplasia proper or, as other writers have called it, “pseudo-hypertrophy,” which name I certainly would not like to see in our pathological nomenclature. Cases of hypertrophy or hyperplasia of the muscle tissue alone, causing a considerable thickening of the tube-walls, are probably the results of a chronic irritative pro-

cess which invades predominantly the muscle tissue and not the interstitial connective tissue. The question whether or not the muscle tissue is augmented by disease is not an easy matter to decide, since the thickness of the muscle coat of the tubes is greatly at variance even in a physiological condition. A number of cases of such muscular hyperplasia have been observed, the most marked example, however, of this form of disease is probably that described by Kaltenbach in the *Centralblatt für Gyn.*, 1885, No. 43. I have represented hyperplasia of the interstitial connective tissue without a considerable destruction of the muscle-fibres in a series of specimens selected from some cases operated upon by me. For description I would select the following case:

History of Case 156.—Bk. III., pt. æt. 31, married twelve years, two children, no miscarriage; three years since last pregnancy; all labors normal; menstruation began at fourteen; present illness four years' duration. Severe hypogastric pains; lumbar pains; much cardiac palpitation; frequent micturition; bowels loose; menstruation irregular, occurring once in from two to five weeks, lasting three days. Profuse, thick, white leucorrhea. Abdominal section and removal of appendages.

Here the folds of the mucosa are shallow and broad, and the calibre noticeably widened. The epithelial coating is little changed, though in some places the epithelia themselves appear rather short and of somewhat varying heights, whilst their contour toward the calibre is somewhat jagged. The cilia are lost everywhere. The connective tissue of the mucosa is of the fibrous variety and noticeably increased, whereas the blood-vessels are scanty. The same description holds good for the mucosa in toto. Below this, the muscle bundles appear thinned but remain recognizable throughout the wall of the tube both in longitudinal and transverse sections, differing from a normal condition only by a pronounced increase of the interstitial connective tissue. The latter is built up of rather coarse bundles with scanty protoplasmic bodies and a small number of blood-vessels. A peculiar feature in this case is that both the arteries and the veins are thickened, the former exhibiting waxy degeneration in their muscle coats, the latter an increase of the surrounding adventitial connective tissue. The veins are enlarged, filled with blood, and nowhere cylindrical, but angular or fluted.

Another termination of interstitial salpingitis is that into atrophy. See Fig. 3.

CASE 253.—Age 23 years, married two and a half years; never pregnant; menstruation began at 13 years. When 20, she had abscess (?) of the bladder (?). The symptoms were referable principally to the nervous system and were considered reflex by me. The dysmenorrhea from which the patient suffered was simply unbearable; although she was regular, the flow never lasted longer than two hours, yet four days prior to flow she was compelled to go to bed.

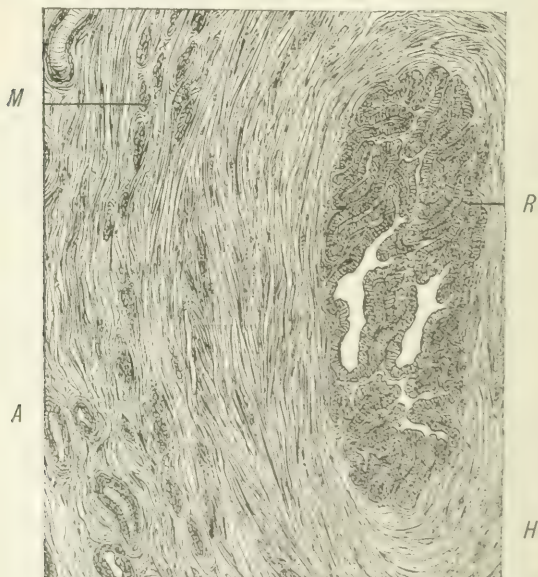


FIG. 3.—ATROPHY OF TUBE FOLLOWING INTERSTITIAL SALPINGITIS.

R, remnants of the folds of the mucosa and of the calibre of the tube; H, hyperplastic fibrous connective tissue of both the mucosa and the muscle-coat; M, remnants of muscle-bundles in transverse section; A, arteries near the peritoneal surface.  $\times 50$ .

An atrophied tube is conspicuous by the reduction of its diameter and the thinness of its walls. In transverse sections the calibre is scarcely recognizable to the naked eye. Low powers of the microscope suffice to demonstrate a noticeable decrease

in the size of the folds of the mucosa, which appear as though compressed and irregularly pushed together, whereby the calibre is rendered extremely narrow and irregular. The epithelial wreath is preserved around the folds. The boundary line between the folds and the adjacent connective tissue is not sharply marked around the circumference, since there are nests of inflammatory corpuscles occupying the boundary zone. The rest of the tube-wall consists of a dense fibrous connective tissue, whose bundles interlace and here and there contain small nests of inflammatory corpuscles. The vascular supply is scanty. Toward the peritoneal surface sparse muscle-bundles are visible

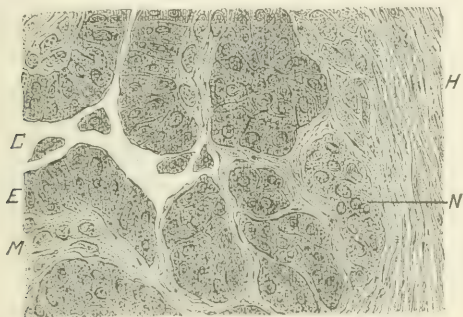


FIG. 4.—REMNANTS OF THE EPITHELIAL COAT IN ATROPHY OF THE TUBE.

C, calibre holding a few detached epithelia; E, narrow and irregular epithelia with augmented nuclei; M, remnants of the folds of the mucosa; H, hyperplastic fibrous connective tissue; N, nest of inflammatory corpuscles, probably sprung from previous epithelia.  $\times 600$ .

in longitudinal and transverse sections; here also a certain number of arteries are seen.

The reduction of the folds of the mucosa is of considerable pathological interest. See Fig. 4.

The epithelia are shorter and narrower than normal; cilia are absent. Within the single epithelia we notice several nuclei or marks of division indicative of a breaking up into inflammatory corpuscles. The remnants of the mucosa consist of a delicate fibrous connective tissue, here and there supplied with inflammatory corpuscles. There is no regularity in the relation of the mucosa to the epithelium, since the

latter is irregularly scattered partly around and partly within the fibrous connective tissue. At the border of the folds of the mucosa are seen, as above mentioned, numerous nests of inflammatory corpuscles. From what we have learned of the destruction of epithelium in cirrhosis of the liver and the kidneys it becomes probable that in atrophy of the tube a number of the epithelia perish by being transformed into medullary or inflammatory corpuscles, from which in turn fibrous connective tissue arises. This seems to me the only way of explaining the reduction in the number of the epithelia. In my cases, the calibre of the tube was considerably narrowed, being in the condition usually termed stricture. Cases in which the calibre is com-

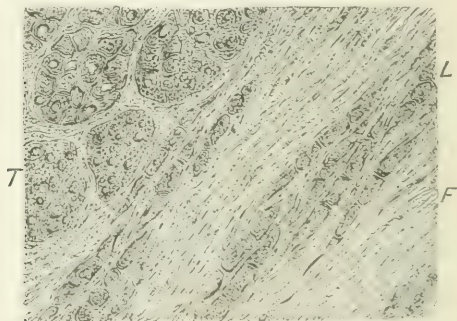


FIG. 5.—TRANSFORMATION OF SMOOTH MUSCLE INTO FIBROUS CONNECTIVE TISSUE. 1. ATROPHY OF THE TUBE.

L, muscle-spindles in longitudinal section; T, the same in transverse section; F, fibrous connective tissue.  $\times 600$ .

pletely occluded, the walls having grown together, are, however, not very rare, I myself having seen this condition several times; this then produces an atresia of the tube. What has become of the epithelia in such cases? We know that atresia is impossible so long as there is an epithelial coat present, though it be ever so thin. Either all the epithelia have been destroyed by an ulcerative process or they have perished in the way above indicated.

The process of destruction of the muscle-fibres is traceable in the tube-walls near the peritoneal surface. See Fig. 5.

In longitudinal sections of the spindles we can observe all

stages from a division of the nuclei into a splitting up of the whole spindle. The rows of the inflammatory corpuscles at first still retain the original spindle form. In transverse sections of the muscle-bundles, either clusters of nucleated and coarsely granular medullary corpuscles are seen, or multi-nuclear protoplasmic masses. As to the origin of both the latter forms there can exist no doubt, since we find them in bundles whose muscle-fibres are little or not at all changed. In all specimens of interstitial salpingitis a more or less marked peritonitis could be seen, either in the shape of an acute swelling or of pseudo-membranes. The route by which salpingitis spreads from the mucosa to the peritoneal surface is the connective tissue, the carrier of blood-vessels as well as of the infectious material, this being either the micro-organisms or their derivations, the ptomaines.

---

## A NEW STITCH.

---

BY

J. W. LONG.

Asheville, N. C.

---

(With three woodcuts.)

---

THERE is needed a stitch whereby *three or more* stitches can be taken consecutively, and without interruption, in such tissues as the omentum, hernial sacs, and uterine appendages, in which the amount of tissue is too abundant to be safely and satisfactorily intrusted to the ordinary double ligature or the Staffordshire knot. Also in uniting the fascia lata as a safeguard against hernia after laparotomy (a point which Prof. W. G. Wylie has especially emphasized), in the operation for ventral hernia, and in uniting the internal and external pillars in the Macewen operation. As I know of no stitch which meets the indications, I suggest the following:

Select a suture (of whatever material desired) of sufficient length to make all the stitches required. Thread on to

this suture as many needles as there are to be stitches. One of the needles should be left near the end, as ordinarily; the others should be pushed close to the other end of suture which is knotted.



FIG. 1.—Needles threaded.

Now seize the sac (for instance) with the left hand, and, by means of a needle-holder held in the right, pass the needle (*a*) through the neck, as near to the edge (of neck) as may be desired



FIG. 2.—First stitch in position. Second needle (*b*) transfixing neck of sac.

to give the first stitch the proper amount of tissue. Then slip the second needle (*b*) to within say two or three inches of the point where the suture passes through the sac. Now transfix the neck with this second needle at a point sufficiently distant from



the entrance of the first needle to give the *second* stitch the requisite amount of tissue, and, grasping the point of the needle on the other side, pull until the loop (*f*) is taken up.

In the same manner each of the remaining stitches should be taken. After the loops between the needles have been drawn home, cut the suture at each needle, and the stitches will present the following appearance :

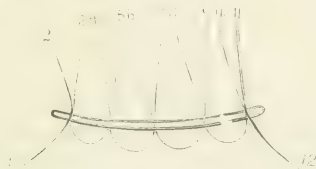


FIG. 3.—Stitches in position.

Now give the suture end marked 2 a turn around the one marked 3 (same as in the old double suture), bring 2 and 1 together, and tie. Next wrap suture end marked 4 around 5, bring 4 and 3 together, and tie as before. The last knot will, of course, be made up of 11 and 12.

I have described its application to a sac solely as an example to show the principle involved. It need scarcely be remarked that this stitch may be applied to a wound of any length, even from the symphysis to the ensiform cartilage, as well as to those of shorter length.

## A YEAR'S WORK IN LAPAROTOMY.

(FORTY-FIVE OPERATIONS.)

BY

PAUL F. MUNDE, M.D.,

Professor of Gynecology at the New York Polyclinic; Gynecologist to the Mount Sinai Hospital

(With four photo engraved plates.)

(Concluded from p. 40.)

*Preparatory Treatment.*—The patients upon whom I propose to perform laparotomy, for whatever purpose it may be, are prepared, if they are anemic, by a course of iron, quinine, and nutritious diet for as long a time before the operation as I may be able to have them under my control. Their bowels are thoroughly evacuated by mild laxatives (compound licorice powder generally answers every purpose), they take a lukewarm bath with special scrubbing on at least two days before the operation; a rectal enema and a vaginal douche are given in the morning, and if the patient needs stimulation, ten to twenty grains of quinine are administered three hours, and an ounce of whiskey half an hour, before the operation. In very nervous cases, one-half drachm of one of the bromides is also given half an hour before the operation.

While generally choosing the time as far from the menstrual period as possible, I have not been deterred from performing laparotomy, when accidentally the menstrual period was imminent or came on unexpectedly on the day fixed for the operation, and I have seen no bad results from such practice. Particular care was taken in such cases to insure aseptic closure of the vulvar orifice by sublimate pads during the operation. The pubes are always shaved, and just before making the abdominal incision the abdomen is scrubbed with soap, washed with ether, and then with a solution of corrosive sublimate 1 : 1,000.

The *anesthetic* used has been until recently ether, given with a Clover's inhaler, with the action of which I have been so well satisfied that I have used it exclusively for etherization during the past five years in all private and major hospital

operations. With it never more than two or three ounces of ether are needed for an operation lasting one hour, and there is less nausea. Besides, anesthesia can be induced so gradually as to avoid the disagreeable choking so much complained of in the beginning. My last twenty-five laparotomies have been performed under chloroform anesthesia, care being taken always to have the urine examined for albumin, pus or other evidence of renal disease, immediately before the operation. My reason for using chloroform recently has been the fear of the evil effect of ether on pre-existing disease of the kidney. I confess that I have not seen any bad effects from chloroform and that my experience leads me to prefer it to ether whenever there is the least doubt of the kidneys being perfectly healthy.

The operating room of the hospital is always carefully prepared for each laparotomy by being thoroughly scrubbed and disinfected by sulphur fumes. For two hours before the operation, a spray of two-per-cent carbolic acid solution is kept playing in the room, not for the purpose of *killing germs*, but because it was thought that the vapor of carbolic acid would to a certain degree purify the atmosphere of the room. At the beginning of the operation the spray is stopped. All the instruments are kept thoroughly clean and bright, and at the time of the operation are placed in flat pans containing a two-per-cent carbolic solution. The silk and catgut used are rendered aseptic in the usual manner; the silk by boiling and preserving in sublimate solution; the catgut by immersion in oil of juniper. Wire sutures I never use in laparotomy. The sponges are boiled in a five-per-cent carbolic solution, and kept in closed jars until used. During the operation they are washed in a 1:4,000 sublimate solution, and squeezed dry before being used. I think it important to mention that since my continental trip, in 1886, I have used exclusively pads of sublimate gauze with strings attached instead of the large flat sponges which I formerly employed to protect the intestines and encircle the pedicle during its ligation. These pads, which I first saw used by Billroth in Vienna, are washed and cleansed repeatedly as needed during each operation, but are thrown away afterward. The carrying of infection, therefore, in these sponges is entirely done away with. I was led to adopt this innovation because I found that either the large flat sponges were difficult to cleanse thoroughly, or if really thoroughly sterilized, they were liable

to become so brittle as to render it possible for some particles to be torn off and left accidentally in the peritoneal cavity. In addition, they are expensive and not always to be had of superior quality. The pads of gauze and the sponges on holders to be used during the operation are carefully counted and their number marked on the blackboard in the operating room. Before the abdominal wound is closed the nurses have to produce the same number of pads and sponges. The majority of the charity operations are done in the presence of from ten to fifteen spectators comprising a section of the class in gynecology of the New York Polyclinic, a certain number of other invited guests, and the house staff of the hospital. Those spectators over whom I have control are enjoined verbally to use every antiseptic precaution now in vogue. The invited guests receive a card for each operation of which the following is a fac-simile:

MOUNT SINAI HOSPITAL,  
66th St. and Lexington Ave.

Dr..... is hereby invited to a laparotomy for... .. on..... at 2:30 P.M.

✂ The acceptance of this invitation signifies a compliance with the following conditions.

- 1.—Absolute freedom from possible contagion, living or dead, within the past twenty-four hours.
- 2.—Clean clothing and linen which has not recently been worn in hospital wards.
- 3.—Non-interference with instruments, sponges, patient, operation; and *silence* during the operation.
- 4.—Promptness in attendance, as the door is closed at the hour named.
- 5.—Departure from the room as soon as (but not before) the operation is completed.

PAUL F. MUNDÉ, M.D.,  
20 West 45th St.

With all these precautions rigidly enforced, I do not think septic infection from without probable during one of my operations. It is true that of sixteen private operations only one died, and that was a case at her own home in the country, and a hopeless one, almost, before the operation (intestinal obstruction). But I am sure that the greater mortality among the charity cases must be chiefly ascribed to the fact that they happened to be more difficult cases, and that the general nutrition of these patients was poor.

*Operation.*—Nearly all my operations were performed early in the afternoon for reasons of convenience to myself. The

usual precautions are always scrupulously employed, as cleansing the body by a soap bath on the same morning, by entire change of linen, by the avoidance of contact with septic cases during the forenoon, and by thorough scrubbing and immersion in a 1:2,000 solution of corrosive sublimate of the hands and arms just before the operation. The same precautions are enjoined upon the assistants and the nurses. My staff of assistants during the operation consists of one chief assistant who stands opposite to me; a second who has charge of the instruments, and a third takes care of the Paquelin thermo-cautery. The anesthesia is in charge of another assistant who is chosen for his competency in this respect. Two trained nurses have the care of the sponges and gauze. The position of the bladder is ascertained by the sound before beginning to operate, in order to avoid its accidental injury. I stand on the right side of the patient facing her head (I have not been able to accustom myself to the method of the late Prof. Schroeder, who stood on the left side of the patient with his face to her feet and began the incision at the pubes) and make my incision as short as the probable circumstances of the case may require. In cases where presumably only the ovaries and tubes are to be removed, an incision of two inches in length has usually sufficed me. In ovariectomy I generally begin with a short incision of from two to three inches, but do not hesitate to lengthen it at an early stage if there are adhesions or the size of the tumor seems to call for it. Bleeding vessels are seized with hemostatic forceps and, if large enough, tied at once with catgut. I have of late years used no director, picking up the tissues one by one on mousetooth forceps held by my first assistant and myself. In this way I have usually succeeded in opening the peritoneal cavity without danger. Only once did I accidentally, the light being poor, overlook the fact that I had nicked the peritoneum and consequently cut into a prolapsed coil of small intestine. I closed the wound in the intestine immediately with Lembert's suture of fine catgut, then removed the adherent ovaries and tubes, and the patient made an uninterrupted recovery, the bowels being kept quiet by opium, and moving spontaneously on the tenth day. Since then I have guarded against the occurrence of a similar accident by always preceding each incision of the tissues close to the peritoneum with the point of my left index

finger, and by lifting the peritoneum up as high as possible into the wound with the forceps. Should the intestine be adherent to the peritoneum, a wounding of the former might occur in spite of the most careful dissection, and I have seen it happen to a very skilful operator.

When the peritoneal cavity is opened, if the case be one of ovarian tumor, I pass a large sound over the whole surface of the cyst to detect the presence or absence of adhesions, and then immediately plunge a small curved trocar into the cyst, and as soon as its wall is sufficiently flaccid seize it with blunt vulsella or flat cyst forceps, and endeavor to draw it out of the wound. The opening into the sac is enlarged by scissors or bistoury, so as to allow of rapid evacuation of its contents, and by a careful approximation of the abdominal walls to the tumor the entrance of cyst-fluid into the peritoneal cavity is prevented. I formerly turned the patient on her side while doing this; but I have now found the dorsal position equally safe and more convenient if free exit was given to the fluid. Adhesions are of course tied doubly and cut between, the ligatures being usually silk: in thin adhesions, catgut. The pedicle, if not too thick, is clamped by a long stout hemostatic forceps (one of Tait's set), the tumor is cut off above, and by a Peaslee's needle a double No. 12 silk ligature is passed through the middle of the pedicle under the clamp. The loop of the ligature is brought over the pedicle and the clamp, and the well-known Staffordshire knot is tied. For additional security I have been in the habit of carrying the ligatures once more around the pedicle in the same groove, and of tying a tight double knot on the opposite side where the first knot was tied. I have done this perhaps unnecessarily, but having heard of a case in the practice of one of our eminent surgeons in this city where the Staffordshire knot slipped and fatal hemorrhage took place, I have preferred to use this precaution, thinking that a little more silk in the peritoneal cavity would do no harm. I then sear off the portion of the pedicle projecting over the clamp with the Paquelin at red heat, and drop the pedicle. If the case was one of simple salpingo-oöphorectomy, I sear off the appendages over the clamp instead of cutting them and searing afterwards. The reason why I employ the cautery is because of the excellent results of Keith with it without the ligature, but I have been afraid, I confess, to omit the ligature.

The pedicle is surrounded by a split pad of gauze during the searing, so as to protect the skin.

In long incisions or when the peritoneum shows a tendency to separate from the fascia, I pass a long silk suture through the whole abdominal wall on each side at about the middle of the wound, tie it and use it as a retractor, removing it when the final stitches have been inserted.

If there has been any escape of fluid from the cyst, be it pus or colloid, into the peritoneal cavity, or if there is considerable oozing from flat adhesions, I pour a free stream of sterilized boiled water at a temperature of 100–105° (Thiersch's solution of boracic and salicylic acids) from a pitcher into the peritoneal cavity, having it squeezed out by my first assistant as it fills the abdomen until it escapes perfectly clear. By careful and moderate sponging the peritoneal cavity is dried as far as practicable, care being taken to avoid unnecessary introduction of fingers, air, or sponges into the abdominal cavity, or handling of the abdominal viscera. If the peritoneum bleeds freely, one of the pads of gauze is introduced into the wound to cover the intestines while the sutures are being inserted.

If the incision is long, I pass a certain number of deep silk sutures through the abdominal walls and peritoneum (about one to the inch), which are to act as stays to the subsequent sutures. I then unite the peritoneum by a running catgut suture, passing the needle under each loop and carefully drawing it tight, and then proceeding to the muscular fascia and gradually upwards and outwards until the skin is included in the last row of the suture. The silk sutures are then tied. I have been led to use these latter sustaining silk sutures, because in cases where I employed only the catgut suture I have repeatedly seen a separation and gaping of a portion of the skin-wound owing to the too early absorption of the catgut. In short incisions I pass only two or three silk sutures through the whole abdominal wall including the peritoneum, and have always secured perfect union in this way. Recently I have used silkworm-gut in several perineal and three abdominal operations, and have been so well pleased with it that I think I shall use it in place of silk or wire whenever I wish particularly to avoid suppuration or the sutures are to be left in some length of time. Before closing the abdominal wound, of course, the gauze protecting the intestines is withdrawn, and if there appears to be any



oozing, a final sponge on a holder is passed down into Douglas pouch. The dressing consists in covering the abdominal incision with iodoform vaseline, a strip of protective, and a layer of sublimate gauze and absorbent cotton; all together fastened down by a moderately tight abdominal bandage.

*After-Treatment.*—The patient receives no nourishment during the first twenty-four hours, cracked ice only being administered for thirst. If there is any vomiting, *nothing whatever* is administered by the stomach, except medicines to allay this symptom, nutrition being carried on per rectum. Morphine is not given, except there is excessive pain or restlessness, and then hypodermically; the patient is allowed to be turned on her side, if more comfortable, at any time, and the bowels are usually moved about the fourth day by an enema, or earlier, if there is febrile reaction, by a saline laxative, the citrate of magnesia, or Rochelle salts. If there is much tympanites, a large enema (one to two pints), containing peppermint water one pint, spirits of turpentine one-half ounce, castor oil one ounce, is given with the fountain syringe. To produce copious stools when a rise of temperature appears to indicate septic infection, ten grains of calomel, given in doses of one grain every half hour, followed by a saline laxative the next morning, or five grains of calomel and ten grains of compound jalap powder, have generally produced the desired effect.

Vomiting or nausea have generally yielded, when not of septic origin, to the oxalate of cerium in five-grain doses, or to one-tenth-grain doses of cocaine, repeated every half-hour or hour; also to drachm doses, every half-hour, of sulph. magnesia in one ounce of hot water until half an ounce of the salt has been given. This latter is also an excellent method of causing free peristaltic action and several fluid stools when there is a slight rise of temperature with tympanites. I have given the sulph. magnesia for this purpose several days in succession, increasing the number of doses of 3 i. each to six and eight, if necessary, and the result has always been excellent. The hot-water bag placed over the epigastrium has also been a useful agent in allaying nausea. Hydrate of chloral per rectum has also proved beneficial.

My patients have so universally expressed the comfort derived from an ice-bag placed on the abdomen that I have allowed it to remain there for as long as a week, even though

there was no rise of temperature or other febrile indication for it. The diet of the patients has been fluid up to the end of the first week, as a rule. Kumyss is much used; also sareo-peptones (the preparation given in the hospital being Rudisch's), peptonized milk, beef or chicken broth, etc. Of course, enemata of beef peptonoids, with or without brandy, are given, if the strength requires, and the stomach is irritable. The stitches have usually been removed, if they were of silk, from the seventh to the tenth day, the abdomen being carefully supported by broad and long strips of adhesive plaster. Of late years, I have seen very few cases of mural abscesses, which I think is due to the careful cleanliness observed during and after the operation. A properly prepared abdominal binder has been given to all laparotomy cases, with the direction to wear it for at least a year, in order to prevent ventral hernia. My patients have generally not been allowed to sit up before the end of the second week, or to walk about until a few days later.

The pulse and temperature after a laparotomy do not seem to me to indicate any one particular point except this, that if the pulse reaches 100 beats, and the temperature exceeds  $100^{\circ}$ , there is cause for apprehension, and something is wrong. In cases which progress to recovery, the pulse seldom exceeds 90, and the temperature  $99^{\circ}$ . A rise does not always indicate septicemia, and may be due to gastric or intestinal irritation or tympanites, against which prompt measures should be taken. A rapid small pulse, with temperature scarcely above  $100^{\circ}$ , has always seemed to me a threatening sign if it began soon after the operation, and persisted.

*Drainage.*—I have recently expressed my views and experience on the subject of drainage after laparotomy in a paper read before the American Gynecological Society at its last meeting held in New York in September, 1887.<sup>1</sup> It will be noticed that, in a large proportion of my cases, drainage was employed. This was due, not to a preference that I entertain for drainage, but to the extensive adhesions which the majority of my cases presented. It has been my practice always to insert a glass drainage tube, open at both ends only, whenever there was any considerable amount of oozing, just before the

<sup>1</sup> See Vol. XI., Gynecol. Trans.

closure of the abdominal wound, or when cyst contents had escaped into the peritoneal cavity. I have always been careful to have the tube emptied of its contents at regular intervals, varying from four to six times in the twenty-four hours, according to the amount of secretion, and to guard against all possibility of septic infection from without during these manipulations. The drainage tube has always been removed as soon as the secretion either ceased entirely or became purely serous. I have certainly seen most wonderful recoveries when the drainage tube was used, and I feel that I should have been careless of the interests of my patients if I had failed to use it in such cases; but I cannot help entertaining a grave suspicion that, in certain of the cases which terminated fatally, the drainage tube acted as a direct irritant, and that the purulent peritonitis of which the patients died, and which did not develop until the end of the first week, *might* not have come on if I had closed the peritoneal cavity entirely and allowed such small secretion of blood or serum as happened to occur to take care of itself. I think we need much more extended experience to enable us to arrive at a distinct estimation of the cases in which drainage is indispensable, and others in which it may be avoided. A *sine qua non* to the complete closure of the abdominal cavity is undoubtedly the exclusion of septic material, and the prevention of the decomposition of secretion in the abdominal cavity after it is closed. This can only be achieved by the most scrupulous cleanliness of everybody and everything connected with the operation, be this accomplished by the use of germicides or otherwise. One little improvement which I have made in connection with the use of the drainage tube seems to me worthy of mention, and that is the insertion of an untied silk suture at the very spot where the drainage tube is to be placed (the lower angle of the wound), which suture can be used to draw together the lips of the wound when the drainage tube is removed. The more rapid closure of the track of the drainage tube seems to me to be thus secured, and there is less probability of a remaining fistula.

Generally speaking, the utility of the drainage tube is at an end after forty-eight hours, when the effusion of lymph around the tube has closed the peritoneal cavity to external influences. In one case I have seen what seemed to be a peculiar effect of the drainage tube on the stomach which I could only explain

on the principle of reflex irritation. In Case 59, obstinate vomiting continued for three days after the operation and seemed to be incited by each removal of the fluid in the drainage tube. The removal of the tube while there was still a quite abundant secretion of bloody serum resulted in the almost immediate cessation of the vomiting, and the patient went on to rapid recovery.

*Intra-ligamentous Cysts*, that is, those ovarian cysts which, instead of developing upwards into the abdominal cavity away from the pelvic basin, grow down into the pelvis between the layers of the broad ligament and dissect up the pelvic peritoneum in their progress, are to me the most formidable tumors of the uterine appendages. And with good reason, for three out of the five deaths after ovariectomy occurred in intra-ligamentous cysts, which were torn into shreds during the attempt at enucleation, requiring many ligatures and much handling to check hemorrhage, and the use of a drainage tube in consequence of the escape of the colloid cyst fluid into the peritoneal cavity. Death occurred in all from septic purulent peritonitis.

I think I have made the mistake, when beginning the enucleation, of making too large an incision into the capsule, which being thin, tore under the finger into irregular flaps which could not be brought together and stitched to the abdominal wound. Careful evacuation of the contents through as small an opening as possible, then clamping or ligature of this opening, traction of the sac upwards toward the incision as far as possible, and careful enucleation through a small incision, first with thick sound and then with finger until enough of the capsule can be separated and elevated to allow it to be stitched to the peritoneum at the abdominal wound, and, finally, completion of the enucleation of the cyst-sac, would, I think, largely do away with the dangers and bad results of the operations on these particular cysts. Cysts of the broad ligament, while resembling in their topographic development intra-ligamentous ovarian cysts, and therefore also difficult to enucleate, still show more of a tendency to develop upwards, and their sacs can, therefore, generally be easily stitched to the abdominal wound, and allowed to heal by granulation without enucleation. Besides, should any of their bland fluid enter the peritoneal cavity, it is of no consequence, since it carries no septic matter. I have

thus removed and cured a cyst of the broad ligament containing forty-eight pints of fluid; the sac, which was stitched to the abdominal wound, reaching from the diaphragm to the pelvic floor, and from the median line to the crest of the ilium, and requiring six months for its complete closure. (Case 17, operated in Feb., 1885, not included in this list.)

A question which has of late been attracting considerable attention is whether, in case of inflammatory disease of one ovary and tube, the other apparently sound ovary and tube should be removed at the same time. Tait has recently published a series of cases in proof of the advisability of removing both appendages if those of one side are diseased, since the healthy organs in the cases reported soon became similarly diseased and required a second operation for their removal. Other operators give a like experience. Undoubtedly the surest means of completely curing the case is to remove both appendages as completely as possible. And if there is the slightest evidence of inflammatory disease on the other side (such as a highly congested tube or an enlarged ovary), those organs should usually be removed. But it seems to me that the patient should have a voice in this matter. If she is a young single woman who wishes and expects to be married, or a married woman who desires offspring, the chance should be given her to fulfil her destiny or realize her desire, even though eventually a second laparotomy may become necessary—a prospect which, with our present antiseptic measures, is, after all, not such a terrible risk. If, on the other hand, the woman is a widow or an elderly single person who never expects to marry, presumably the possession of one ovary and tube is of very little value to her. After explaining the case clearly to the patient, she should be allowed to state her wish, which the surgeon should respect so far as the condition of the apparently normal appendages will permit. Thus in Case 35 the patient urgently requested me to save her other ovary, if possible, as she was engaged to be married. This I promised to do unless I found it decidedly diseased. There was found to be a monocyst of the right ovary, and a small hematoma of the left ovary, which latter I did not deem it wise to allow to remain. Undoubtedly, many ovaries with numerous small cystic follicles have been removed under the conscientious impression that these cysts must ultimately develop into a multilocular

tumor, when they were merely slightly distended Graafian follicles which would never disturb the patient. It is as yet difficult to draw the line where an ovary is so diseased as to entirely lose its functional activity, or to say which minute cysts are likely to develop into large tumors, or remain quiescent. Particularly in commencing cystic degeneration, where there is a desire for children, should the conservative and preservative plan be adopted. In inflammatory affections of the appendages, especially with a history of venereal infection, the removal of both appendages at one sitting is preferable.

I have only once followed the original and ingenious suggestion of Dr. Wm. M. Polk, of New York, to detach adhesions of ovaries and tubes with the fingers, "strip" the tubes of whatever mucus they may contain, and return them to the abdominal cavity, provided neither tubes nor ovaries appear so diseased as to require removal. In that case (No. 60), I operated for persistent pain on the left side, where I found ovary and tube but slightly adherent and apparently normal, and hence returned them; on the right side, where no pain had been complained of, both ovary and tube were considerably enlarged and extensively adherent, and were removed. The patient has since spoken of feeling pain in the right side only. I have frequently noticed that the pain was more severe on the side where there was the least disease, and attribute this fact to so-called sympathy.

Only in one case (No. 63) could a gonorrheal infection be positively traced as the cause of the inflammation of the uterine appendages, and, curiously, in this case the tubes, while adherent, were not enlarged or apparently diseased; the ovaries, however, were both as large as a hen's egg, and completely adherent. The patient, a girl of 20 years, admitted having had intercourse with "dozens" of men since her fourteenth year. The ovaries showed multiple, fine cystic degeneration in a marked degree. While I do not for a moment question the potent influence of the gonorrheal virus as a cause of salpingo-oöphoritis, my experience does not allow me to agree with the, in my opinion, extreme views of Noeggerath that gonorrhea is the chief source of inflammation of the uterine appendages or of female sterility.

What the real, primary cause of the inflammation of the appendages is, cannot always be ascertained. The history of my cases has generally pointed to exposure to cold during menstru-



ation, to imprudence after confinement or abortion, and to unknown factors in the production of the pelvic inflammation. I have always endeavored to trace a venereal origin, but only in the case mentioned has such a cause been admitted. Indeed, most of the cases were those of respectable married women, whose husbands denied having had gonorrhea. And I have seen quite a number of cases of catarrhal endometritis, with enlargement of the tubes and ovaries, in virgins.

Were the statement of Noeggerath true that gonorrhea in the male is *never* entirely cured, and that the majority of women married to men who have had gonorrhea are sterile because they have diseased ovaries and tubes in consequence of infection from their husbands, it is obvious that, considering the sexual habits of a large proportion of our young, unmarried men, at least in the large cities, fully two-thirds of all married women would be sterile and suffering from disease of the uterine appendages. That this is not the case every one knows.

Recent observations have shown me that in apparently perfectly potent men azoospermia, as the result of epididymitis or sexual excesses, is not so uncommon a cause of sterility as is generally assumed.

Pathologically, in my experience, there are three varieties of tubal disease which give rise to the symptoms calling for removal of those organs :

1. The most common variety, where the tubes are enlarged, their calibre more or less increased by interstitial hyperplasia, which is the result of frequent acute attacks of endo-salpingitis and peri-salpingitis. The lumen of the tube is either normal or often contracted, but never increased in this condition. Often a few drops of pus can be squeezed from the tube, but there is no appreciable accumulation of fluid in the canal. The fimbriated extremity may be open, or it may have been closed by agglutination to the ovary.

The ovaries may be apparently healthy, or they may be slightly cystic or even atrophic. Generally, both ovary and tube are bound down by more or less firm adhesions, which so unite the organs as to impart to the examining fingers on bi-manual touch the sensation of an irregular, but well-defined, slightly movable tumor ; and during the operation, the intraperitoneal fingers at first fail to discover either tube or ovary, the pouch between the broad ligament and the posterior pelvic



wall being occupied by a smooth, indistinct body, on the surface of which the finger soon detects a little groove, from which spot the peeling out of the ovary and tube is usually easily accomplished. The ovary lies at the bottom of the pouch, with the enlarged tube curled around, over, and behind it.

Examples of this condition are shown in Figs. 54, 56, 57, 58, and 62. I have called this particular form of tubal disease "pachy-salpingitis," or thickening of the tube ;<sup>1</sup> it is an interstitial salpingitis, and, in its marked form, incurable except by removal of the appendages. Local galvanization may, in the early stages, relieve the pain and perhaps prevent the increase of the disease for a time.

2. The next most common condition is dilatation of the tube, usually without a hypertrophy, and often even with a thinning of its walls, the sac containing generally pus, at times blood or serum. The largest tubal sac I have seen was the hematoma shown diagrammatically on page 34, from Case 53, the next largest was a pyo-salpinx shown in Fig. 51, Plate III. The ovaries may be normal or atrophic, or they may also be destroyed by a purulent accumulation, as seen in one of the specimens of Case 51, and in Case 27, where both tubes were distended with pus and both ovaries were changed to large abscesses, which ruptured during removal ; the patient recovered. I have introduced the latter case merely as an example of double ovarian abscess and pyo-salpinx.

Usually both tubal sac and ovary are extensively adherent, and the former is liable to rupture during removal. Preliminary aspiration of the fluid through the abdominal incision is therefore advisable before proceeding to break up the adhesions.

3. The variety least frequently met with during laparotomy, in my experience, is catarrhal salpingitis, where the tube is neither enlarged nor dilated, but merely intensely hyperemic, containing a few drops of muco-pus, and, generally with the ovary, attached by fresh filmy adhesions to the neighboring organs. I do not mean to be understood that this form of tubal disease is not common, for I believe it to be more frequent than any other, and indeed the usual initial variety in

<sup>1</sup>See my article on "Electricity in Gynecology," *JOUR. OBST.*, Dec., 1885, p. 1,256.

all the cases where gonorrheal infection does not at once set up a violent acute salpingitis. But I have met with only a few instances, probably because I do not operate, as a rule, until the disease has assumed one of the first two types already described.

It is for this variety that the method of Dr. Polk, to break up the adhesions, squeeze out the contents of the tube, and return it to the abdominal cavity, is intended. I would add to the "stripping" of the tube the suggestion, that the tube could be cleansed more thoroughly and germs in it destroyed by gently forcing a warm sublimate solution (1 to 5,000) from a syringe through it into the uterine cavity, before dropping the appendages.

Whether we are justified in this effort to save the organs, and whether the suggestion to prevent them from dropping back and again becoming adherent by stitching the fundus uteri to the anterior abdominal wall, or by placing a drainage-tube behind the uterus, or by shortening the round ligaments should be carried out—these questions only much additional experience can answer.

A case of catarrhal salpingitis is shown in Fig. 52, Plate III., where both tubes and ovaries were universally, but very lightly, adherent. The perfect recovery of the patient has satisfied me that the removal of the organs was preferable to the doubtful plan of returning them after loosening the adhesions.

Still I hope that this new method will prove to possess a future.

Only in one instance did I find it impossible to break up the adhesions and form the usual pedicle. It was in the case of a mulatto woman from Stamford, Conn., three years ago, who had had several severe attacks of pelvic peritonitis. I could make absolutely no impression on the solid adhesions with my fingers, and was compelled to lift up the whole broad ligament with the appendages on each side as far as I could, pass the ligature as deep as possible and tie and sear off all I could include in the ligature. The patient made a perfect recovery, and her physician wrote me a year or more after, that she remained perfectly well and free from pain, although menstruating regularly.

I will close this report by a few observations on the *results of salpingo-oöphorectomy*, not the immediate recovery from the

operation, but the permanent freedom from the symptoms which called for the removal of the diseased appendages. It has been observed by a number of operators that a certain proportion of the cases in which the diseased ovaries and tubes have been removed, for months after the operation complained of symptoms very similar to those which were present before, and to relieve which the operation was performed. Thus I have had patients come to me within six months after the operation telling me that they still had the same pain in both ovarian regions, and that they had besides feelings of discomfort, such as hot flashes in the face, rush of blood to the head, restlessness, insomnia, irritability of temper, in fact, a multitude of neurotic manifestations, all of which led them to believe that they had not been benefited by the operation. As regards the persistence of pelvic pain, I have not been able to offer a better explanation than that the site of the diseased appendages had become changed by fresh adhesions so as to be the seat of a localized neuralgia, which would probably disappear in course of time ; or else, that a more or less distinct plastic exudation had taken place around the pedicle. Several times, a local examination revealed to me the presence of such an exudation which gradually disappeared under appropriate treatment, but more frequently I have found an absolute freedom from local disease and have been obliged to attribute the pain to a neuralgic source. I have taken particular care of recent years to inform all patients from whom I proposed to remove the diseased ovaries and tubes that they must not expect an immediate cessation of all their pains, but that certainly some months would elapse before entire relief would be obtained. The other reflex neuroses are such as occur very commonly at the time of the menopause and are treated by remedies calculated to allay nervous irritability and hysterical symptoms. Such patients may be confidently assured that they are simply passing through the ordinary phases of the "change of life," and that time will surely bring complete relief. I lay stress upon the persistence of these symptoms because I am asked every now and then by some observant physician or inquisitive patient whether the operation which I propose will result in an immediate and permanent cure ; these questions being incited by the knowledge of some similar case in which the pains persisted after the operation. I have found the local use of

counter-irritants and of galvanism to be the most efficient remedies for pelvic pain. The climacteric hystero-neuroses are treated on general principles. It is important to keep watch of these cases for some time, since a case that apparently was not cured by the operation within a year may, after two or three years, be entirely well. My experience shows several such instances.

As regards the justifiability of the removal of the apparently normal ovaries for certain reflex neuroses, such as epileptiform and cataleptiform convulsions and threatened insanity, apparently depending upon and associated with the menstrual function, my experience leads me to be exceedingly conservative in recommending the operation for such indications. I have once removed the ovaries which were apparently healthy for long persisting dysmenorrhea and reflex gastric irritation (nausea, vomiting, inability to retain food) which rendered the patient's life miserable for three weeks out of every four, and made her a bedridden invalid from inability to use her lower extremities, and the result was most marvellous: the patient not only soon regained perfect control over her stomach and improved in general health, but she also began to walk, although eminent neurologists had said that she had sclerosis of the spinal cord. It is five years since this operation was performed, and the patient's improvement continues to the present day.

Again, I have removed ovaries for what seemed to be menstrual mania, have found temporary improvement, and within three months the patient committed suicide in a fit of mental aberration (for full report of these cases see *New England Med. Monthly*, Sept., 1884). I have removed the ovaries for cataleptiform seizures, have seen a temporary cessation of the symptoms, and six months later they returned with almost their former intensity. To remove the appendages for mania, for epileptic or cataleptic seizures, simply because these attacks occur in a woman and it is hoped the menopause will check them, as I know has been done more than once, seems to me unjustifiable and irrational. Unless the symptoms complained of appear distinctly connected with and dependent upon the menstrual function, the removal of the ovaries is not to be thought of. In any case, a thorough trial of all other remedies at our command should be scrupulously made before

considering and performing the operation of oöphorectomy. The statement I have made in speaking of the ultimate results of the removal of the diseased ovaries and tubes applies also to the permanent success of oöphorectomy for reflex neuroses, viz., that time must be allowed to elapse before deciding whether the results will be permanently beneficial or not. It seems scarcely necessary to add that, in the above remarks on the justifiability of oöphorectomy for reflex neurotic symptoms, I refer entirely to normal or apparently normal appendages. If these are appreciably diseased, the indication for their removal is immensely strengthened.

In four cases of removal of diseased and adherent ovaries and tubes, menstruation has persisted with more or less regularity for from one to two years after the operation. When the apparently normal ovaries and tubes are removed, as has been done by me, in all, twelve times, including two hysterectomies for fibroids and four vaginal hysterectomies for cancer, absolute menopause was at once achieved. Whether in the former cases any minute trace of the ovary was accidentally left behind during the separation of the adhesions can be merely suspected. I certainly endeavored to remove the entire organ and tube in each case. The presence of a third ovary is so rare as to offer but an unsatisfactory explanation.

So far as I have been able to ascertain in the few cases which remained under my observation, there was no change whatever in the sexual feelings of the patients after removal of both ovaries, and their appearance certainly did not betray any masculine tendency.

Ovarian tumors, should, as a rule, I think, be operated upon early. I mean, even before they have given rise to distinct symptoms, except such as may have called for the examination which revealed their presence. If we wait for the advent of severe pain, rise of temperature, or even a chill, we are far more liable to encounter difficulties in the course of the operation and changes in the condition of the tumor which particularly endanger the life of the patient. A laparotomy under our present stringent rules as regard cleanliness and avoidance of infection, and with the increased dexterity which each additional case brings, is not, if uncomplicated by the conditions just mentioned, a very dangerous operation. It becomes so

by delay and by the want of dexterity or the carelessness of the operator.

As regards removal of the diseased ovaries and tubes—salpingo-oöphorectomy or Tait's operation—I am not so sure that haste in performing it is advisable. The diagnosis of the exact pathological alteration in these cases is so often uncertain and the patients so frequently desire still to be left in condition for maternity, that it seems to me to be our duty to preserve to them the appendages so long as there is the slightest hope of restoring them to functional activity. I have therefore been reluctant to advise or perform the extirpation of the organs so long as I could not satisfy myself that they were hopelessly diseased. The symptoms complained of by the patient (constant pelvic pain and a persistent demand for its relief at any cost) have several times induced me to comply with the patient's wishes and to perform the operation, and in such cases the pathological condition found has fully justified the procedure. All I wish to inculcate is a careful consideration of the patient's symptoms and of the results of a physical examination, and chiefly of the possible beneficial results of palliative treatment, before proceeding to perform an operation which, once done, can never be undone. It is self-evident that diseased and functionally imperfect ovaries and tubes, if they can no longer be restored to health, are merely a source of annoyance and useless to their owner, and had better be removed. To determine precisely what organs are so diseased is a problem still before us for solution. The removal of the ovaries for the arrest of growth of interstitial fibroids is, in my opinion, a highly justifiable and beneficial operation which, however, is not usually necessary in large sub-peritoneal tumors. How much electrolysis, now so popular owing to recent publications, may influence this opinion, remains to be seen.

I have met with but one case of tubercular peritonitis in an adult woman. Although the ultimate result was unfortunate, I feel that the many successful laparotomies performed for this condition by Fehling, Hegar, Koenig, Spencer Wells, Van de Warker, and others, abundantly justify the operation in my case. Although we cannot as yet explain the manner in which a complete recovery eventually ensues after the laparotomy, that such an improvement and cure *does* take place in the majority of the reported cases is beyond question, and in such

an otherwise hopeless disease, in my opinion, reason enough for operating.

*Ventral hernia* I have seen after but one of my operations, and that was a hysterectomy not included in this list. Careful strapping and bandaging until the patient was discharged, and a well-fitting, tight abdominal corset to be worn for at least a year in long incisions, have, as far as I know, prevented this accident in my practice.

The experience which has influenced some of the above remarks is not entirely drawn from the cases here reported, but to some extent from my previous laparotomies, 28 in number. Among these there were 16 ovariectomies, 2 operations for cysts of the broad ligament, 2 hysterectomies for fibroids, 6 salpingo-oöphorectomies, and 3 oöphorectomies for fibroid tumor, menstrual mania, and reflex menstrual neuroses, respectively, making a total of 73 laparotomies. This experience leads me to concur most heartily, when I recollect my early trials and failures with laparotomy, in the statement made and insisted upon by Tait, that great success in laparotomy can be achieved only by concentrating the operations in the hands of comparatively few operators, and by operating, as a rule, early. In no operation does practice and experience so benefit the operator, and thereby the patient, as in laparotomy, since in no other surgical procedure is the exact pathological condition liable to be so uncertain or is the unexpected so likely to occur. Only experience can prepare the surgeon for these emergencies and teach him to meet them coolly and effectually. When we have fewer operators with more operations, the successes of laparotomy in this country will equal those of the great laparotomists of Europe. It was not the climate nor the inferior physique of the American women, but the inexperience of the operator (largely produced by the scattering of the cases) and the inattention to surgical and hygienic details, which until recently has been to blame for our poor results. Already, however, our most successful laparotomists are showing figures nearly, if not quite, equal to the best statistics abroad, and soon, I hope, we will have no reason to be ashamed of our records.

---



REMOVAL OF A LARGE FIBROMA FROM THE RIGHT TRANSVERSALIS FASCIA AND PERITONEUM, BY LAPAROTOMY.  
RECOVERY.

BY

JOHN HOMANS, M.D.

Boston, Mass..

Surgeon to the Mass. Gen. Hospital and Clinical Lecturer in Harvard College on the  
Diagnosis and Treatment of Ovarian Tumors.

THIS rare operation by laparotomy for the removal of a fibroma of the transversalis fascia and peritoneum I have always meant to report, but have never done so.

In the early spring of 1883, a married lady, 31 years old, consulted me on account of a hard, movable tumor in the right ileolumbar region. She was in perfect health, stout and rosy; had been married eleven years, and had two children, the youngest being 2 years old. On examination, I found a hard, movable tumor, about seven inches in length and breadth, and somewhat flattened in shape; there was no fluctuation in it; it was a little tender along its inner edge; auscultation revealed nothing. The right lumbar region was duller than the left. There were no symptoms of pressure on any of the abdominal organs. The uterus was normal in every respect, and was evidently not connected with the tumor; her menstruation was normal. The urinary organs were healthy. She had been upset and thrown from a wagon three times, but without serious injury. There was no vaginal fulness, no bearing-down of the uterus, nor pressure on the bladder. She had had sciatica of the right leg. The tumor had been discovered one year before I saw her, and had apparently grown downwards from the right hypochondriac region; it was the size of a lemon when first noticed. She had never had peritonitis, and there was no ascites. I examined the case carefully and asked her to seek other advice before deciding to have the tumor removed. I was reluctant to perform laparotomy, because I had never seen a similar case, and I feared the operation might be dangerous, and her health at this time was perfect. But the presence of the tumor was irritating and unbearable, not from any symptoms of pain and discomfort, but because the thing was in her abdomen, and she hated its presence. The tumor seemed not to be attached to the kidney, as shown by palpation.

and by the absence of urinary symptoms; nor was it apparently attached to the liver. It was movable in every direction, but the mobility was limited by an attachment to the abdominal walls in the region of the right linea semilunaris. After much study and careful examination, I made the following diagnosis: A fibroid or cartilaginous tumor, either in the abdominal parietes or attached to the kidney or liver; or possibly a gland.

On May 19th, 1883, I made an incision through the skin and subcutaneous fat down to the tumor; this was found to be invested by and covered with the anterior abdominal fascia. Nothing was seen of the oblique muscles until the inner and outer edges of the tumor were reached. The incision was somewhat curved, but in the main parallel with the long axis of the abdomen, and was about seven inches in length. The fat and skin of the abdominal parietes were separated from the tumor by the finger, and at the inner border the fascia and peritoneum were seen to separate, one going in front and the other behind the tumor, and both were adherent to and incorporated with it. The tumor was then removed by dissection with the knife, and muscular tissue was seen at the edges. A piece of peritoneum, about three and a half inches in diameter, and also a piece of the transversalis fascia, nearly as large, were removed with the tumor; all bleeding points were tied with catgut or silk. The pyloric end of the stomach, the omentum, and the intestines were freely seen during the operation, and were covered by sponges. The edges of the peritoneum were sewn to the edges of the fascia above and below, but neither of these edges could be completely approximated together by any force of sutures, and there was a central space, perhaps an inch and a half in diameter, in the peritoneum and fascia that I could not bring together. The muscular edges, fat and skin, were carefully approximated, and the wound closed. Recovery was uninterrupted. The tumor proved to be a dense fibroma, about five inches in diameter, and was two inches thick; it weighed two and a quarter pounds. I was not surprised, though I was intensely disappointed to find, some months later, that hernia had taken place through the fascia. The patient had not informed me when the hernia first appeared, as she thought nothing could be done about it. A well-fitted truss controls it fairly, but it is an annoyance. She is now, four and a half years after the operation, in good health.

---

## REMOVAL OF THE UTERINE APPENDAGES—FIVE CASES.

BY

MARY A. DIXON JONES, M.D.,

Surgeon to Woman's Hospital, of Brooklyn.

CASE I.—S. S., 20 years of age, a nurse by profession. When seventeen years of age, she had a severe attack of southern malarial fever, in consequence of which, menstruation was suspended for eighteen months, since which time she has suffered with almost constant pain in the pelvis, greatly increased at the menstrual period. She was no longer capable of attending to her duties and was becoming a confirmed invalid.

The patient called to see me December, 1886. On examination, I found the right ovary enlarged, tender, and dislocated low down in Douglas' cul-de-sac, the left ovary was in position and apparently normal. The enlarged and prolapsed ovary was giving her almost constant distress, and its evidently diseased condition was affecting her general health and greatly disturbing her nervous system.<sup>1</sup>

What was to be done? Should we attempt to place the ovary in position, and retain it by cotton tampons, pessaries, and supporters of various kinds? Are we certain that these appliances could hold the organ even temporarily in position? Even if the vaginal walls were stretched beyond measure by mechanical instruments, there could still be room in the pelvis for the ovary to find its way down, the laws of Newton will maintain their supremacy, nature has provided no means to hold up the increased weight, the elastic tissues and ligaments are already relaxed and show their inability to hold the organ in position, and the continued use of pessaries, placing, and replacing, is not only extremely harassing, but is a source of injury; and years of such treatment may give only negative results, the ovary may still be large, may still be misplaced, the ligaments relaxed, and the woman sicker than ever. If the question is simply to *hold the organ in position*, probably oöphorrhaphy, with all its attending

<sup>1</sup> Displacement of the ovary, apparently of so little import, is appalling in its consequences and ruinous to the mental and physical organization of the unfortunate sufferer.—Engelmann.

evils, would be preferable, less tedious, more certain in its results, and do less damage to the system.

But even if we succeed in holding the organ in position, what good will result? It is already a diseased, degenerated structure and manifestly growing worse. In most instances, when there are enlargement and dislocation of an ovary, except soon after parturition, there has been such an amount of disease that there are already degenerative changes, and such as render the organ useless. In this case, it seemed manifest that the only way to relieve the patient from continued suffering and chronic invalidism was to remove the hopelessly diseased structure, as Hegar says, "the extirpation of such structures stands on the same footing as the removal of any other part of the body which has become useless and degenerated."

The 20th day of January, 1887, I removed the right ovary and tubes; the left ovary seemed all right and in good position and I was glad to feel justified in leaving it. The patient recovered without a bad symptom. Next day temp. 98, P. 84; third day pulse and temperature normal. The operation was to the patient much less trying than would have been the continued treatment, and there resulted *permanent good*.

March 17th. Patient the picture of health, well and vigorous, contented in mind and able to work.

The *appendages*, naked eye appearances:—Tube greatly enlarged, ovary size of a hen's egg, nodular on the external surface, scattered through the structure a number of greatly enlarged cysts, and apparently no healthy Graaffian follicles.

By microscopical examination,<sup>1</sup> the ovary showed a most unique change, viz., ectasia of the lymph-vessels. These dilated lymph-vessels were filled with nearly homogeneous lymph which exhibited numerous vacuoles and scanty lymph-corpuscles. The clot of the coagulated lymph was in many places detached from the wall of the lymph-vessel. The latter showed a very marked elastic layer and a thick endothelia. Almost the entire stroma of the ovary appeared to be transformed into a fine globular, almost hyaline mass, with interspersed scanty bundles of connective tissue. The cysts seemed to be of immense size, a gauze-like inflammatory tissue separating the cysts. Evidently there had been a rupture of some ectatic lymph-vessels, and a subsequent inundation of the stroma with lymph. The few remaining muscles or fibrous connective tissue seemed to be in a swollen or hygroscopic condition; the ova were apparently in the same condition, enlarged, watery, and unnatural.

<sup>1</sup> The microscopical examinations were made in Dr. C. Heitzmann's laboratory, and under his instructions. Cuts and descriptions by Dr. C. Heitzmann.

The effusion of lymph caused pressure upon the stroma of the ovary, which pressure seems to have made peculiar changes in the arteries. In some places the calibre of the arteries was very much narrowed, reduced to an extremely narrow slit, bordered by the endothelia; in other places the arteries were considerably dilated and filled with blood-corpuscles, which in part exhibited transition into pigment granules. In the former instance, the middle coat of the artery was very broad, while in the dilated arteries it was considerably thinned. Such aneurismatic sacs were doubtless caused by the mechanical obstacles in the arterial

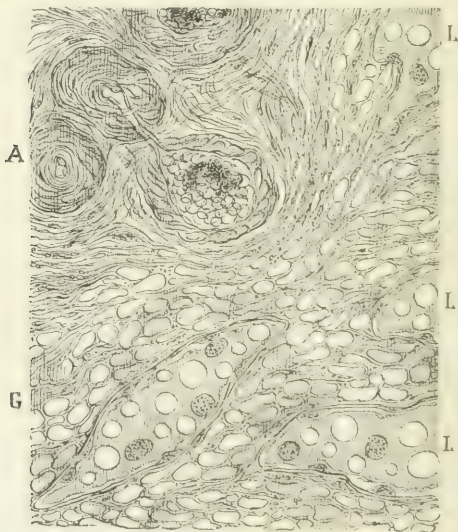


FIG. 1.—Ectasia of lymph-vessels of right ovary, with effusion of lymph into the stroma and aneurismatic dilatation of the arteries; L L L, dilated lymph-vessels filled with coagulated lymph, in which numerous vacuoles and a few lymph-corpuscles are seen; G, stroma of the ovum inundated with lymph; A, artery partly compressed, partly dilated, and filled with blood-corpuscles in a beginning transformation into pigment.

circulation. The presence of pigment indicated that the lymph effusion, and the dilatation of the arteries depending upon the lymph effusion, had been existing for some time.

Thus we see that the whole organ was so changed in structure that no portion or anatomical part of it could perform normally its function; and could any medication or treatment have made

it a sound organ, replaced healthy tissue, or brought back the Graafian follicles? And what good would have resulted by holding it in position, had it been possible? The tendencies were to still greater disease and degeneration. The dislocation was probably caused by the enlargement and increased weight consequent upon the ectatic lymph-vessels. The *Phila. Medical News*, a short time since, gave an account of the removal of an enlarged tongue; upon microscopical examination no change in its structure was perceived except enlarged lymph-vessels, the usual cause of macroglossa.

CASE II.—Katie, a comely girl of 18, came January, 1887, to the Dispensary of the Woman's Hospital, penniless and disheartened, said she had been turned from one situation after another on account of her frequent and severe sickness and consequent inability to work; said her sufferings were indescribable, that her pain continued all the time, but her agonizing distress commenced some days before menstruation and continued during the period.

Examination showed ante flexion, fundal enlargement of the uterus, appendages adherent, and extremely sensitive.

She was admitted into hospital just before her next menstruation; her sufferings during the period was so great that in mercy we administered anodynes; even when covered warm in bed a cold perspiration at times stood out all over her body, accompanied by great prostration and nervous disturbance, at times her mental condition was a little disturbed,<sup>1</sup> and after the eight or ten days' suffering she looked as if she had been through a long spell of sickness, pale, feeble, and careworn. We put her under a regular course of systematic treatment to reduce the disease, and if possible to restore her to health; uterus was dilated, etc., etc., but nothing gave relief. It was evident there was but one way to help her; so, after proper preparations and thorough antiseptic precautions, or perfect cleanliness which is the sum of all antiseptics, we removed the uterine appendages. There were considerable adhesions and great difficulty in removing the structures. The patient did well, and at the end of three days was apparently relieved, had no more suffering, and now, March 16th, with a face beaming with happiness, she says, "I am so glad I came to the hospital, I am now free from suffering and able to work."

The appendages were removed, not because she was suffering, but because they were in such a condition of disease as to produce the suffering. Had they been healthy, we would not have removed them on account of the great dysmenorrhea,<sup>2</sup> but would

<sup>1</sup> "Reason often endangered by the sufferings which patients undergo."  
—Lawson Tait.

<sup>2</sup> "It is a sorry alternative, and one not to boast of, when a surgeon is obliged not only to put on the black cap, but to become the executioner."  
—Sir Spencer Wells.



have labored to have found out the cause of the dysmenorrhea and if possible relieve it.

The ovaries and tubes showed such a condition of disease that, if we had continued indifferently various medications to cure them, it would have been a hopeless task, like the Irish doctor's bill, "To curing your wife till she died." Now the patient is relieved from the disease and the consequences thereof.

April 2d, patient reports herself well, with happier mental conditions, and with ease, comfort, and sprightliness performing heavier household work than ordinary servant girls.<sup>1</sup>

Microscopical examination. Intense inflammation of the Graafian follicles and of the cyst walls, the ovaries compressed and inflamed. From naked eye appearances were seen from the outside of the ovary, and in sections of the same, tumors size of a pea. These proved to be considerably dilated follicles into which repeated interfollicular hemorrhage has taken place. These enlarged follicles were surrounded by stratified layers of products of inflammation such as would never occur after menstrual hemorrhage, rupture of the follicle. There must have been repeated hemorrhages, since the layers surrounding the follicles exhibited a different stratification and were repetitions of one and the same reactive process.

The contents of the follicles were coagulated fibrin, with granular coagulated albumin, and scantily interspersed granular colorless corpuscles. Next to this came a zone composed of dark-brown inflammatory corpuscles saturated with the coloring matter of the blood. Numerous pigment clusters of a dark-brown color were found mixed with the corpuscles. Next to this was a layer of dense fibrous connective tissue with comparatively few inflammatory corpuscles. Next there was a convoluted zone composed of dense hyaline, almost waxy like substance, which with high powers of the microscope exhibited a structure similar to that of tendons in transverse section. After this was a dense fibrous and freely vascularized layer, the result of chronic ovaritis. In this layer was another hyaline zone narrower than the other and not continuous around the follicle.

In other parts of the ovary, there was hemorrhagic infarctus, bundles of fibrous connective tissue, and smooth muscles separated by nests of inflammatory corpuscles, the blood-vessels choked and the inflammatory reaction around showing that the process took place in life.

There were seen follicles older than this, some showing more recent inflammation, yet full of blood.

<sup>1</sup> The Liverpool Hospital Inquiry Committee says: "Certain of these patients complained of such a loss of physical energy and spirit as prevented them from discharging their ordinary household duties as before operation." I find them after the operation more capable of performing household duties, and with more physical energy. If an opposite condition existed, I would imagine it resulted from some septic inflammation following the operation.



Of considerable interest was the fact that through the dense fibrous connective tissue were found bundles of non-medullated nerve fibres traversing both the longitudinal and transverse layers of connective tissue, passing into the lower hyaline zone. One of these bundles is illustrated in Fig. 3.

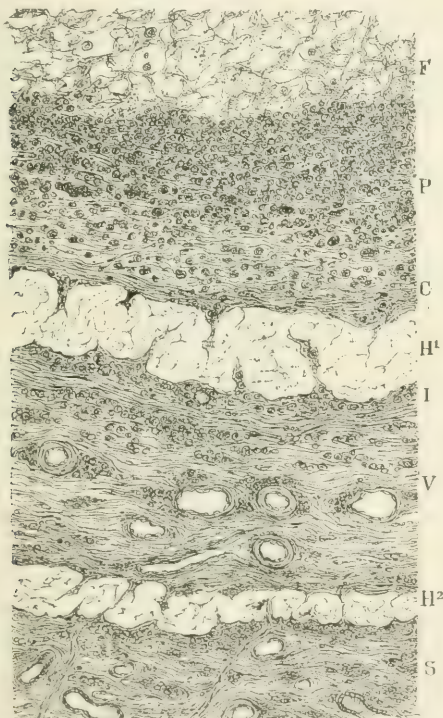


FIG. 2.—Stratified wall of an ovarian follicle after interfollicular hemorrhage. Transverse section. F, coagulated fibrin and albumin with a few mucosites. P, pigmented inflammatory corpuscles crowded into the follicular wall, mixed with dark brown pigment clusters. C, dense fibrous connective tissue with comparatively few inflammatory corpuscles. H¹, hyaline zone composed of dense, almost waxy like substance, showing convolutions, result of chronic inflammation. I, narrow zone of inflamed fibrous connective tissue. V, dense fibrous connective tissue with interlacing bundles and scanty inflammatory corpuscles, holding numerous blood-vessels, arteries, veins, and capillaries. H², hyaline zone constructed like H¹. Stroma of the ovary composed of interlacing dense bundles of fibrous connective tissue with numerous blood-vessels and nerves passing through the stroma into the hyaline zone, H².

"This bundle holds three non-medullated varicose nerve fibres, one of which is lost in the dense hyaline zone, the other passing into the dense fibrous connective tissue, terminates with a large shining homogeneous bulb; the third nerve can be traced but for a short distance.

"Nerve fibres being packed in dense fibrous connective tissue would explain a number of pathological features of the nervous system depending upon diseased ovaries. Nerve fibres of this kind and so placed will cause pains aggravated at every menstrual period or, if in connection with the vaso-motor system,

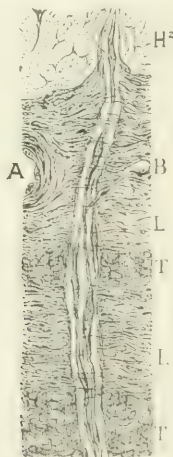


FIG. 3.—Nerve fibres from the layer S of same specimen.  $\times 500$ .  $H^2$ , second hyaline zone. A, artery in transverse section. L, L, longitudinal bundles of fibrous connective tissue. T, T, transverse bundles. B, varicose enlargement of a non-medullated nerve fibre.

may cause epileptic fits. It is the first time, at least to my knowledge, that nerve fibres could be traced in inflamed ovarian tissue with such clearness as this specimen exhibits."

CASE III.—Mrs. L., 36 years old, married, no children, suffered with constant distress in the pelvis for the last thirteen years, great nervous disturbance, prostration, weakness, and inability to attend to her household duties.

Examination.—Ovaries enlarged, exceedingly sensitive, and low down in Douglas' pouch. For near six months she was treated in the Dispensary of the Woman's Hospital in hopes of

relieving the tenderness, diminishing the size of the organs, and correcting the displacement. No special improvement was observed in these respects, so, after consultation, it was decided to remove the uterine appendages. The patient recovered from the operation without a bad symptom, and at the end of the third week she was able to assume the burden of her household duties. March 10th, 1887, patient called at the Dispensary Clinic, was the picture of health, suffering no distress, was strong and able to work.

Microscopical examination.—Both ovaries in a state of sub-acute inflammation. Many portions of the ovarian stroma were crowded with inflammatory corpuscles, other portions were in a state of cirrhosis.

There were also remarkable changes in the vascular system, more especially in the arteries, caused by embolism with consecutive endarteritis and arteritis. Larger and smaller arteries seemed to be obstructed, their calibres completely choked; frequently several cut ends of the same tortuous artery could be seen, all equally obstructed, and when the artery was cut longitudinally, the whole extent was filled by an embolus. Some arteries showed a fresh embolus with clusters of micrococci, the origin of which is a question. The endothelium in these cases was transformed into delicate fibrous connective tissue. Other arteries had enormously thickened walls, the calibre reduced to a narrow slit, and when the artery happened to be cut longitudinally, a fine, irregular line only marked the lumen. The middle, or muscular, coat was especially thickened; in some this coat was filled with inflammatory corpuscles, in others it was changed to fibrous connective tissue, in others it was in a state of hyaline or waxy degeneration. Many of the arteries showed such a waxy change, even when the process of endarteritis was not very far advanced. When the muscular coat was transformed into inflammatory corpuscles, almost everywhere micrococci could be seen between the corpuscles. In many places the inflammatory corpuscles were changed to fibrous connective tissue to such an extent that only the waxy gloss of the deep carmine stain indicated the locality of the previous artery.

These arteries in the various stages of degeneration seemed to be in a sea of inflammatory corpuscles. Streams of these corpuscles seemed to be floating around, some elongated, or elongating into spindles in the process of change to fibrous connective tissue, then we would see the fine, irregular bundles of new fibrous connective tissue, the end of the pathological changes. Thus, much of the stroma of the ovary was composed of moderately dense fibrous connective tissue, with interspersed inflammatory corpuscles—*subacute ovariitis with a termination in cirrhosis*.

On the most careful search no ova could be found, yet the woman menstruated regularly. The stroma of the ovary in its cortical portion exhibited several clusters of pigment corpuscles due to previous menstruations, also numerous clusters of fat

granules and fat globules, likewise depending upon previously ruptured follicles. In several places were seen the structureless membrane of the ruptured follicles. This membrane was thrown in graceful folds; in some, ovarian tissue had grown, in others were pigmented epithelia and fat granules.

In the Fallopian tubes was found the same condition of the arteries, viz., embolism, arteritis, and endarteritis; and the veins, many of them, were crowded with white blood-corpuscles, which



FIG. 4.—Endarteritis, and embolism of left ovary.  $\times 500$ . A<sup>1</sup>, embolism of an artery, surrounded by a thin, distended and waxy middle coat. In the finely granular embolus numerous clusters of micrococci were seen imbedded in vacuoles. A<sup>2</sup>, endarteritis in an initial stage, the endothelium transformed into inflammatory corpuscles, without a marked change of the muscle coat. A<sup>3</sup>, termination of endarteritis with formation of delicate fibrous connective tissue from the endothelium, with increased connective tissue between the muscle fibres of the middle coat. A<sup>4</sup>, artery far advanced in transformation to connective tissue, the previous calibre still recognizable by the presence of micrococci. L, lymph-vessels holding clusters of micrococci.

lay like great masses separated from the walls and the endothelium detached.

The tubes and ovaries in this condition could no longer perform

their physiological functions; they were no longer of any use in the animal economy, and the diseased state of the arteries would probably have caused yet more disastrous conditions.

Since the removal of the diseased organs, the woman seems capable of years of robust health and vigorous labor.

CASE IV.—Mrs. M., 43 years of age, had been suffering for many years, a confirmed invalid, in bed a great portion of the time, subject to sinking spells, in some of which she remained unconscious two or three hours. The patient was weak, emaciated, and anemic. She complained of constant pain in the pelvis and bearing down; for the last five years, has had at intervals severe uterine hemorrhages, and says that during the last five months she has had a constant flow, without a day's intermission.

Examination.—Uterus retroverted and retroflexed, the fundus enlarged by an intramural fibroid, the appendages extremely sensitive and crowded low down near ostia vaginae. The patient was extremely nervous and hysterical; temp.  $100\frac{1}{2}$ , P. 110. She was placed in bed, kept quiet, and put under treatment to regain strength and improve her general and special conditions. Five weeks after, March 9th, laparotomy was performed, the appendages were removed, the uterus was found as large as the third month of pregnancy, the ovaries somewhat atrophied, and the tubes in a high state of inflammation. The patient made an excellent recovery without a bad symptom.

June 8th. Patient in the enjoyment of excellent health. Says she has not been as well for twenty years.

August. Patient strong and vigorous, good appetite and gaining in flesh.

The appendages were removed, first, because they were diseased; secondly, to cut off the blood supply to the fibroma.

*Microscopical Examination.*—Fallopian tubes, acute catarrhal salpingitis, the whole mucosa filled with inflammatory corpuscles.

Sections from the ovaries showed marked inflammatory change both in the cortical and medullary portion. The inflammatory corpuscles were clustered in groups, such as we are accustomed to find in any acute inflammatory process. Around the clusters were seen tracts of spindle-shaped corpuscles of various sizes, such as are characteristic of the changes from an acute to a chronic inflammation.

Especial interest was attached to the inflammatory changes of the blood-vessels, especially the arteries. These appeared transformed into inflammatory corpuscles, springing both from the endothelium and the middle coat, while the calibre was reduced to a narrow slit. Some arteries were completely obliterated, and recognizable only by a cluster of smooth muscle-fibres. Many capillaries were lost through the inflammatory process, being transformed into solid tracts of spindle-shaped inflammatory corpuscles. The lymph-vessels were scanty, and exhibited no pathological change.



CASE V.—Mrs. N., a refined, delicate woman, aged 31, married twelve years, four children—one born nine months after marriage, the second a year thereafter, etc. The history of the last ten years has been a history of suffering, constant distress in the pelvis and in the back. Examination: The appendages enlarged, sensitive, and low down in Douglas' cul-de-sac; uterus retroverted and bound down; the patient extremely nervous, irritable, with a feeble pulse, and in an exceedingly low state of health, literally almost dead from much suffering and over-work. She was admitted into the Woman's Hospital, was kept

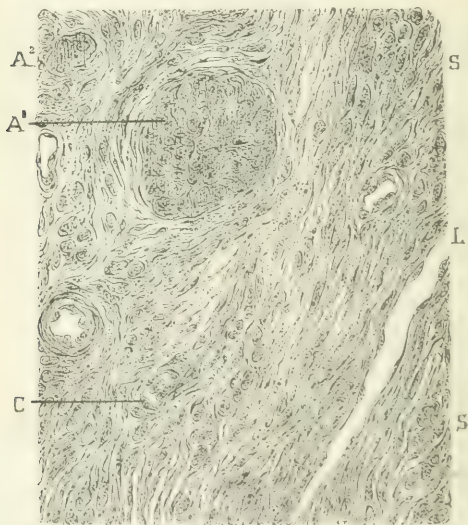


FIG. 5.—Subacute oöphoritis of the right ovary, with secondary changes of the arteries. A¹, transverse section of the artery, both endothelium and muscle coat being transformed into inflammatory corpuscles. A², remnant of previous artery, completely obliterated. C, capillary, when endothelial wall is transformed into inflammatory corpuscles. L, lymph-vessel. S, S, stroma of the ovary transformed into globules and spindle-shaped inflammatory corpuscles.  $\times 500$ .

for weeks quiet in bed, had good nourishment, massage, and every attention. She improved very much in general conditions, after which she was given special treatment to reduce the inflammation in the appendages, and restore them, if possible, to their proper position; but they continued to be apparently just as much diseased, and would certainly be a cause of continued

suffering; so, after consultation, it was decided to remove them, which I did March 14th, 1887. The patient did well in every respect; the temperature the second day of the operation was three-fourths of a degree better than the day before the operation, and the third day after, it was normal, which it had not been for many months previously. At the end of two weeks, she was able to be out of bed, was entirely comfortable, and had a good appetite.

July, 1887. Patient says her health is excellent, has not been so good for fifteen years.

*Microscopical Examination.*—Tubes, suppurative parenchymatous salpingitis. Great folds of the tubes could be seen filled with inflammatory corpuscles changing to pus. Epithelia filled with inflammatory corpuscles changing to pus, and the cilia in most places entirely destroyed.

*Ovaries.*—Interstitial ovaritis. Some portions of the ovarian stroma were in a state of intense acute inflammation, other portions were in a process of change to fibrous connective tissue, while other portions were completely changed to fibrous connective tissue, or in a state of cirrhosis.

Thus both ovaries and tubes show an utterly diseased degenerative condition, and it would have been impossible for any medication or treatment to have restored them to a normal or healthful condition. All the patient needed for the recovery of her health was the removal of these diseased organs.

In all the above cases, the uterine appendages were removed on account of their diseased conditions. By what name shall such operations be called? This question is suggested by a note received from Prof. Paul F. Mundé, who is eminent authority on these subjects. He writes, after reading my report of "Nine Consecutive Cases of Removal of the Uterine Appendages": "I beg to acknowledge the receipt of your very excellent article on Tait's operation, in which I see you include the removal of not enlarged or but microscopically diseased ovaries—oöphorectomy or Battey's operation. It seems to me that the indications in Tait's operation—mainly decided by diseased, even purulent, *tubes* (chiefly) and ovaries—are quite different from that for Battey's operation, when the disease of the uterine appendages is but problematical before and after the operation, which is performed often for merely reflex neurotic conditions. In Tait's operation, there can be no question of the indication; in Battey's operation, the justifiability is still *sub judice*. See Wells, Hegar, Schroeder, and other recent authorities."

Then the removal of ovaries "not enlarged or but microscopi-



cally diseased," or "when the disease is problematical before and after the operation, is Battey's operation" ? Battey says his operation is "the extirpation of ovaries while in a state of functional activity" (healthy ovaries?) "for certain grave causes." Tait's operation is the removal of diseased organs. In one of his early cases, he used this expression: "I proposed to remove the diseased ovaries; I removed the tubes with them."

Battey says of his operation: "This operation is peculiar in that it has for its primary object, not the removal from the body of a diseased organ, but the abrogation of a physiological function; the end aimed at is the production of a change of life by art." His object was "the modifying influence of the artificial menopause, resorted to in exceptional cases." The object of Tait's operation is not the production of the menopause, though it secures it more effectually.

Battey says further "his operation never could be accepted as the recognized remedy for any particular disease or assemblage of diseases." Tait's operation is "the remedy for a particular disease and assemblage of diseases;" it is to remove diseased organs, whether enlarged or not, sometimes the most hopelessly diseased are smaller than the normal; and if they are diseased, they are microscopically diseased, the microscope only shows the nature of the degeneration. We cannot always tell from naked-eye appearances whether the ovaries are diseased or not; apparently the healthiest ovary I ever removed from the human body contained in it an encysted sarcoma, but before its removal I knew well from the history and examination that it was diseased.

Some say that the *object* in an operation has no modifying effect upon its character or name, that the operation is the same whatever may be its object; then a cut in the neck to relieve a carbuncle is the same as stilleting with intent to kill, or a cut in the abdomen to let out ascitic fluid does not differ from a murderous stab.

Another characteristic which makes a wide gulf between these two operations is the removal of the *tubes*. Tait early recognized the importance of removing the tubes. Battey in his early writings on the subject says nothing about removing the tubes. In the report of his first cases he uses the following expressions: "Both ovaries removed," "One ovary removed," "Both ovaries removed," "Both ovaries were cleanly

removed through the vaginal incision." If so important structures as the tubes had been removed, he certainly would have mentioned it. Most likely the cause of death in several of his cases was *leaving the tubes*, the pus in them became self-infecting, as in the sixth case, the tubes were evidently enlarged and filled with pus; on the ninth day, after removal of the ovaries, the tubes ruptured with fatal results; also in the eighth and tenth cases, the condition of the tubes must have produced the unfortunate results; the tenth died, and Battey says of the eighth: "results unsatisfactory, painful menstruation returned, general health little if at all improved." The adhesions which "firmly bound down the ovaries" must have resulted from inflammation caused by purulent discharges from the tubes.

The Fallopian tubes are frequently the source and cause of most of the trouble and suffering. When we consider their complex organization, the highly structured and folded mucosa, with its millions and countless millions of ciliated epithelia, the muscular structure with its numerous bundles and separate layers, showing the organ was made for varying action,<sup>1</sup> then consider the active movements of the tubes, their repeated contractions in conveying the ovum, their mysterious motions in adjusting themselves to the ovaries: if such organs are in a state of inflammation, there *must be suffering*, and for this the tubes need not necessarily be purulent; there may be more suffering when they are in a state of acute inflammation than when they are converted into sacs of pus, and adherent to some adjacent structure.

"Removal of ovaries while in a state of functional activity," "Oöphorectomy, or removal of normal ovaries."—Sir Spencer Wells. I shudder at the thought of removing *healthy* ovaries, or even when "the disease is problematical," except for some "vice of conformation," as "occlusion of the entire genital tract," or "congenital absence of the uterus with functional activity of the ovaries," and, as Battey has emphasized, the operation "is very limited in its application, and should be resorted to only in exceptional cases." I would not remove *healthy* ovaries for dysmenorrhea, or any suffering in the region of the ovaries; I would not remove them for epilepsy, be-

<sup>1</sup> Even in the mucosa I have seen muscle fibres as in the villi of the intestines.

lieving the lesion to be elsewhere, but cirrrosed ovaries, the outcome of inflammatory action, may be the excitant irritant of epileptic convulsions—a hystero- or ovarian epilepsy, and clinical experience has demonstrated that such ovaries should be removed, and we have many instances where their removal has resulted in relieving trouble and in the entire restoration to health of the patient. I have never operated on a case, but I had full and substantial reason to diagnose incurable diseases of the appendages. I agree exactly with what Sir Spencer Wells said in 1882 and repeated in 1886. "I accept," says he, "the principle, but its introduction in mental and neurotic cases is only to be thought of after long trials of other tentative measures, and the deliberate sanction of experienced practitioners." I go even further. I would not remove them for mental or neurotic diseases, even if I had failed in long trials of tentative measures, and had the cordial, full, and deliberate sanction of experienced practitioners," *unless* I believed the *appendages were diseased*. As our distinguished gynecologist, T. A. Emmet, well says: "There are cases where a little moral suasion administered with firmness, accomplishes a great deal, and nature will often, when favored, bring about favorable changes in nutrition when least expected." P. 660, 3d Ed., 1884. Yet certainly we must admit there are cases of severe reflex neuroses, and abnormal mental conditions which are excited by diseased appendages,<sup>1</sup> and for the cure the removal of the diseased structures is demanded, as the remarkable case of Prof. T. G. Thomas of insanity almost confined to the period of ovulation, and of which he said after the operation: "The case of menstrual insanity has been entirely relieved;" also the case of Dr. R. S. Sutton, of which, after removal of the diseased appendages, he said: "The patient's insanity soon disappeared, and she remained free from mental diseases and nervousness;" Battey's cases in which "after removal of the ovaries epileptiform manifestations have ceased at once;" and a case reported by Prof. W. T. Howard, "Patient would lie in a state of coma writhing in pain for ten

<sup>1</sup> "Diseases of the ovaries and tubes determine serious nervous derangements." Hegar.

In Fig. 3 we see how nerves may be incarcerated or compressed by dense fibrous connective tissue like a vise, and possibly most serious reflex neurosis may result.

days together; she had taken her weight in bromides and chloral until they had no effect whatever." He removed the ovaries and tubes and says: "She was like a new being." Prof. Goodell says: "After the lapse of many years my cases of oöphorectomy for insanity, for hystero-epilepsy, for hystero-mania showed positive and permanent benefit."<sup>1</sup>

In all these cases, the ovaries, no doubt, were in a state of *profound* and *chronic* disease. Had the appendages been *healthy*, I venture to say *no good* would have come from their removal, or as the results of the operation. I can't see that to take away *healthy* ovaries will help any "otherwise incurable," or *any* disease. The functions of ovulation and menstruation are physiological, and their healthy performance certainly has a benign effect upon all the organs and functions of the body. And if these organs, the ovaries and tubes, are hopelessly diseased, or if their removal is demanded on account of some great constitutional defect, the good resulting in either case is not on account of the "modifying influence of the artificial menopause;" in the one case, it relieves a defective system from painful and unsuccessful attempts to perform a function that must necessarily be defective or impossible; in the other, it relieves the system of diseased organs—organs which, on account of disease, have an inability to perform their functions properly, and which are exhausting the patient's vitality from the sufferings induced by the diseased conditions, and which sufferings are increased by the ineffectual efforts to perform their special functions. There are many women who, from this condition of these organs, are not able to menstruate healthfully, or do it to any purpose; many such women would be better if they did not have to expend or waste their strength in this direction, if it were saved for the performance of functions more vital to their health and existence; and such women, with these conditions of disease and small vitality, if they were relieved of these seriously diseased structures,<sup>2</sup> might be passably healthy, and lead lives of comparative comfort and usefulness, instead of spending years in suffering.

<sup>1</sup> See Battey in American Journal of Medical Sciences, October, 1886.

<sup>2</sup> They are simply organs that can't do healthful work and are a detriment to the system, and it is as necessary to remove them as to remove an ovarian cystoma; it is another and more frequent form of degeneration.

becoming more and more diseased, having more and more suffering till death closes the story. They make their painful efforts at sickly, weakly ovulation, suffering all the time, exhausting their life forces which, as I have said, should be expended in the performance of other functions, and after all, if the ovulation is a success, if they bear children, the puny products may not come to maturity, and if they should, they are such as are not "the fittest," such as swell the annual infant mortality, increase the already enormous death rate of infants that come from sickly mothers, or mothers who know nothing of caring physically for themselves or for the young being. Said the Lion to the Fox, "Mine are lions." Women with these sickly ovaries can't give birth to "lions," their progeny is feeble with feeble nervous systems, and such as future adverse circumstances may lead to insane actions or to insane asylums.

I welcome the operation, I look upon it as the means of saving many women who would otherwise be doomed to continued ill health or early death. I look back upon a practice of more than a dozen years, and know of many cases that I sincerely tried to help, and could have done it if I had known of this operation.<sup>1</sup>

Dr. Mundé, in his letter, says further: "See Wells, Schröder, Hegar, and other modern authorities." Sir Spencer Wells, in his late article in the *American Journal of Medicine*, says: "The operation of oöphorectomy or the removal of normal ovaries," and then says, "The excision of morbid ovaries and appendages should be distinguished from oöphorectomy"; thus incidentally this distinguished surgeon clearly and beautifully makes the distinction between Battey's and Tait's operation.

Early last fall, I spent some weeks in Berlin, was every day at Prof. Carl Schröder's Frauenklinik, saw all his operations

<sup>1</sup> One case I had ten or twelve years ago, enlarged, tender, and dislocated ovaries, I tried every means I know to correct the malposition and cure the structures: I used Hodge's pessary, Thomas-Cutter's pessary, tampons, rest, knee-elbow position, iodine paintings, massage, etc., but without success. Soon after the poor woman removed to a country town, and in few years I heard of her death from "heart trouble." If I had known enough to remove the diseased ovaries and tubes, I might have saved her years of decrepitude and suffering, prolonged greatly her life, and probably there would have been no "heart trouble."

during the period, was privileged to go with him through the wards, saw the subsequent conditions of the patients; the whole time I was there I saw in the beautiful wards of the Frauenklinik but one case of the removal of the uterine appendages, and, so far as I recollect, it was called Tait's operation (by Second Assistant Dr. Cohn); certainly no other name was mentioned as the author of the operation.

I was privileged to be in Prof. Hegar's clinic in Freiburg, saw him perform several operations, remove uterine appendages in three or four cases; there it was called, so far as I recollect, neither Battey's nor Tait's operation, but Hegar's. At least, when Prof. Hegar had read a few pages of the first case in the reprint referred to by Prof. Mundé, he informed me that it was *his*, Hegar's, operation! I saw Prof. Leopold, of Dresden, perform the operation several times, but there the operation was called, as I heard it called in some other places, "salpingectomy." Dr. R. Stansbury Sutton, of Petersburg, in a letter written lately to me, incidentally called the operation "salpingo-oöphorectomy." Gross in his great work on surgery called it "ovario-salpingectomy." I have received letters from many eminent physicians, surgeons, and gynecologists, all of whom may be called "modern authorities," all of them mentioned the reprint most kindly, but none of them intimated that I had made a mistake in naming or classifying the operations. By many writers, both Tait's and Battey's have been called, indifferently, "castration" and "spaying." The first term should be discarded at once; it has a special meaning and is for a special purpose. The word "spaying" is from σπᾶω, I draw, and in applying it to this operation it has no special significance, and is equally without meaning, as well apply it to drawing out a tendon or a tooth. If we want to immortalize the special ease with which the New Zealand spayers did their work, and to connect with our operation, which is the outcome of modern science and investigation, all the associations that for centuries have been centred around those beastly uncivilized practices, then call it "spaying"! But spaying is a misnomer, it outrages the meaning; to say of my fourth case—an elegant woman, who was a mother and a queen in her family for many years—to say "she was spayed"! Horrible! With much more propriety and decency we could call tracheotomy, *cutting the throat*, or osteotomy *breaking the bones*.

## CORRESPONDENCE.

### RECENT HYSTERECTOMIES FOR CANCER.

TO THE EDITOR OF AMERICAN JOURNAL OF OBSTETRICS.

SIR:—It gives me pleasure to call your attention to two important names omitted by mistake from my last list. The cases operated upon by these gentlemen, and not included in my first list, are as follows:

	Method	Cases.	Died.	Recov.
Reamy, of Cincinnati, Cin. Lancet and Clinic, July 16, 1887.	.....	3	0	3
Sänger, of Leipzig, C. f. G., 1887, Nr. 14, and by personal comm.	.....	10	1	19

This gives to Dr. Reamy, of Cincinnati, a total of five cases with one death, a result which places him among the foremost of American operators for this disease.

Dr. Sänger, of Leipzig, has a total of twelve operations done by the vagina, with but one death. One year ago, Dr. Sänger did Freund's operation, also successfully, in a case 54 years of age, where, on account of narrowness of the vagina and tenseness of the ligaments, vaginal extirpation could not be completed.

Begging to add the names of Dr. Sänger and Dr. Reamy to my list of recent operators, I am,

Respectfully,

SARAH E. POST.

NEW YORK, December 27th, 1887.



## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

*Stated Meeting, December 20th, 1887.*

*The President, DR. H. T. HANKS, in the Chair.*

DR. HUNTER reported on the tumor of the kidney presented by Dr. McLean on November 1st. The kidney was enlarged to twice its normal dimensions; there was atrophy of the cortex from pressure; below the kidney there was a thin-walled sac filled with shreds which microscopically proved to be myxosarcomatous.

### MODIFIED MARTIN COLPORRHAPHY NEEDLES.

DR. BOLDT showed Martin's needles for the continuous suture in colporrhaphy which he had modified by substituting a rounded



for the sharp-cutting edge. The point was bevelled. The needles were made by J. Reyners & Co. in four different sizes.

DR. HUNTER inquired if the needle was preferable to the Hagedorn.

DR. BOLDT replied in the affirmative, and stated further that it was a stronger needle.

### NEEDLE HOLDER.

DR. HUNTER exhibited a needle holder devised by Dr. Jones, of Cincinnati. He had tested it and found that it did not hold the needle very firmly. He showed it rather as a curiosity on account of its peculiar and ingenious mechanism.

### UTERUS WITH GREAT HYPERTROPHY OF THE CERVIX REMOVED BY VAGINAL HYSTERECTOMY.

DR. HUNTER presented the specimen with the following history: The patient was aged 43 and had suffered for some time from menorrhagia and dysmenorrhea. The uterus was prolapsed, and there was enormous hypertrophy of the cervix. He had intended amputating the cervix, but, on examination under ether, the softness at the fundus led him to suspect malignancy, and so he had performed vaginal hysterectomy. The operation was a difficult one, owing to thickening of the bladder wall. At the

time, he had also removed the left ovary, the right not being readily accessible. Three hours afterward, the patient had a sharp hemorrhage, which was checked on removal of the right ovary and tube. The operation had been performed the day previously and the specimen had not as yet been examined microscopically.

DR. PERRY inquired if it was Dr. Hunter's custom to so operate on account of mere suspicion of malignancy.

DR. HUNTER replied in the negative and stated that, in this case, there was more than a mere suspicion. To the President's question as to whether there had existed a laceration of the cervix, an affirmative reply was given.

THE PRESIDENT stated that he had frequently amputated in case of hypertrophy, and that he was convinced that there was such a thing as hypertrophic elongation of the cervix. He believed that laceration of the cervix might be productive of hypertrophy through irritation.

DR. BOLDT stated that he had met with hypertrophy in a nullipara, the os being outside the vulva, and that this case proved that the condition could exist without laceration.

DR. JACOBUS called attention to the fact that hypertrophy and prolapse were often present together, even as in the case reported by Dr. Hunter, and that the hypertrophy probably followed on the friction to which the cervix was exposed, owing to the prolapse.

THE PRESIDENT had frequently noted the marked hypertrophy of one lip over the other, and he explained this on the assumption that the one was better nourished than the other.

DR. JOHN BYRNE reported two cases of

#### LAPARO-HYSTERECTOMY,

and presented the specimens.

*Case I.—Sarcoma of Uterus.—Recovery.*—D. F., æt. 27, born in Ireland, a milliner by occupation, was admitted into St. Mary's Hospital September 26th, 1887.

Menstruation first appeared at the age of 14, and continued to be regular and free from any unusual discomfort up to about six years ago, when she began to suffer from frequent attacks of pelvic pain, severe and almost continuous backache, and bearing down. During the past three or four years, these symptoms became very much intensified for some days previous to and during each menstrual epoch, the flow also becoming more and more excessive and protracted.

During the last twelve months, she stated that she had had three or four very alarming hemorrhages, and that, after recovering from one of these attacks, she applied and was admitted to the Woman's Hospital in this city. She remained in this institution for four weeks, when it was decided that her case did not warrant any operative proceeding and, therefore, she returned to her home.

When first seen by me (Sept. 28th), her anxious and care-worn

expression and very pronounced anemia were strikingly in accord with the history of her suffering.

She was much troubled with neuralgic headaches during the day, and at night would obtain but little rest on account of pelvic pains and frequent micturition, while, owing to constant nausea and frequent attacks of vomiting, she was able to take and retain but little nourishment. It should be here stated that since leaving the Woman's Hospital she has consulted several physicians, all of whom told her she had a fibroid tumor, and one urged its removal, which he assured her would be attended with no danger whatever.

On making an examination externally, a hard, spherical tumor was found occupying a central position and extending above the pubes, but admitting of little, if any, lateral motion. On passing a finger into the vagina, the lower portion of the tumor seemed to occupy the entire anterior half of the pelvic cavity, and the cervix and os uteri were almost beyond reach towards the hollow of the sacrum.

The entire mass was firmly fixed and quite immovable in every direction, and at this stage of the examination, as the patient seemed much fatigued and exhausted, further efforts at diagnosis were put off for two or three days.

October 1st, the patient being placed in the Sims position, a uterine sound, bent at an acute angle about an inch from its point, was hooked within the os, and, by a little careful traction, another sound was passed into the canal, in a direction almost vertical, to the extent of three inches, but evidently not to its termination. Some clots of blood and considerable hemorrhage followed the withdrawal of the sound; nevertheless, a small-sized sharp curette was now introduced, and a sufficient amount of the endometrium removed for microscopical examination. The report of Dr. Tieste, the pathologist to St. Mary's Hospital, was to the effect that the specimen was that of well-marked sarcoma of the round-celled character.

The patient being an intelligent young woman, the true nature of her ailment was fully explained to her. I informed her that so far from an operation in her case being simple and without danger, any proceeding of the kind would not only be hazardous, but would in all probability be found impracticable, and, if undertaken, would very likely have to be abandoned short of completion. In spite, however, of the dark picture thus presented, and true to the proverbial heroism of her sex under such trying circumstances, she concluded to take the risks of an operation.

The operation was performed on October 9th, and proved one of the most difficult he had ever undertaken. The uterus was universally adherent and firmly fixed in the lower pelvis. By exerting considerable force *per vaginam*, he was able to remove

a portion of the tumor and thus obtain sufficient space to amputate just above the vaginal insertion. He had bunched his ligatures together and passed them through the cervix into the vagina, thus securing free drainage. On November 5th, all the ligatures but one had come away, and on the 10th the patient had left the hospital well. The temperature for the first five days ranged between  $100^{\circ}$  and  $101.5^{\circ}$ . On the sixth day, there was a sudden rise to  $103^{\circ}$ , and an abscess in the entire length of the abdominal wound was found. The stitches were removed. On the 27th, there was a copious discharge from the vagina, and he had had carbolyzed douches ( $2\frac{1}{2}\%$ ) administered through the cervical orifice.

*Case II.—Uterine Fibroids.—Laparo-hysterectomy.—Death.*—Some gentlemen present will, doubtless, recollect that, in a discussion on the electrolytic treatment of fibroid tumors at a meeting of this Society in January last, I related the case of a negress from whom a fibroid, then exhibited, had been removed in a somewhat unexpected manner, namely, by sloughing of its vaginal covering where the needles had entered.

This tumor, which was but one of several at the time known to be present, was retro-uterine, and seemed as if it had at some time occupied a different and higher position, and had by some means been dislocated into the pouch of Douglas, where it might have become fixed and continued to develop. It is true the extent to which the posterior vaginal wall was bulged downward and forward might appear to indicate its subperitoneal character; nevertheless, from what I have observed in the autopsies of two similar cases, and for other reasons, I feel pretty sure that the posterior cul-de-sac had contained the specimen then exhibited.

The vaginal wound was quite healed at the expiration of three weeks, when the patient felt much benefited and greatly relieved of her vesical and rectal tenesmus.

October 23d she was admitted to the hospital again, having suffered from several exhausting attacks of menorrhagia, and the distressing pelvic pains, vesical tenesmus, and sense of rectal obstruction, which for a time had almost disappeared, were now much worse than at any previous time. On digital examination a hard tumor was found in the recto-vaginal wall, the cervix uteri being pressed upward and forward behind the pubic symphysis, as in post-uterine hematocoele when the extravasation happens to be subperitoneal, while the rectum was similarly encroached upon so as to seriously interfere with defecation.

She had suffered much from nausea and vomiting, especially for some days previous to, and all through each protracted catamenial period, consequently her general condition was now much worse than twelve months previously. Under these circumstances, and being convinced that no advantage, but some risk

would attend further electrolytic treatment, at her urgent request I consented to perform laparo-hysterectomy.

She stated that the difficulty in obtaining a movement from her bowels had been much greater during the past two or three weeks, and that she had taken many doses of cathartic medicine, but failed to obtain anything like a satisfactory evacuation, and that she suffered from severe colic pains. Her general condition being fair, it was decided to operate at once before the occurrence of a fresh hemorrhage.

The adhesions were as universal as in the first case, and the tumor had to be pressed up from the vagina before the vessels could be tied on one side, when, by rolling the mass over, he was able to tie them on the other. After removal of the mass, he had made an opening into Douglas' cul-de-sac, and thence passed the ligatures in the vagina. The following are the records of the case up to the seventh day when death occurred from exhaustion.

Oct. 30th.—Rested some, but vomited three times during the night. Temp.  $99\frac{1}{2}^{\circ}$ , pulse 124. No pain. Ordered peptonized milk.

Oct. 31st.—Spent a restless night, but no vomiting; complains of flatulence and fugitive colic; pains in track of transverse colon. Temp.  $100\frac{3}{4}^{\circ}$ , pulse 124. Ordered ten drops of terebinte every two or three hours, and one pill each of comp. rhubarb and comp. cathartic.

Nov. 1st.—No vomiting and no action on bowels. Temp.  $100\frac{1}{2}^{\circ}$ , pulse 132; weak and compressible. Ordered enemata containing turpentine; to have champagne ad libitum, and if rejected, brandy and ice.

Nov. 2d.—Slept some during the night; no action from bowels; still complains of great epigastric distress from tympanites. Temp.  $100^{\circ}$ , pulse 144, and extremely weak. Ordered saline laxatives; punctured the colon.

Nov. 3d.—Temp.  $100^{\circ}$ , pulse 144. Bowels still unmoved, and vomiting returned; no other change. Ordered 5 i. calomel.

Nov. 4th.—Temp.  $99^{\circ}$ , pulse 150. Obtains much relief from turpentine injections, but no fecal matter passed.

At the autopsy, perfect union was found and absolutely no trace of peritonitis. He wished to call especial attention to the treatment of the case after the operation. He was in perfect accord with Mr. Tait in regard to the advisability of administering laxatives in peritonitis. Some years previously he had seen a case of puerperal peritonitis in consultation. The patient had been dosed with opium according to the classic method; her pulse was very thready; the case was most unfavorable in prognosis. He had suggested the administration of a drachm of calomel; in two hours the patient had copious stools. She recovered perfectly. He had since frequently tested laxatives in peritonitis to his entire satisfaction. The vital forces, however, should be at the

same time sustained well, and he had thought that possibly too much attention had been centred on the bowels of the patient from whom he had shown the specimen, and too little on the general condition. At the autopsy the intestines were found empty, and at the junction of the jejunum and ileum there was a marked stricture which may have had something to do with the persistent constipation.

DR. BOLDT asked how the pedicle was treated, and if, at the autopsy, any trace of the puncture site into the colon was noted, and if it was Dr. Byrne's custom to puncture in case of tympanites.

DR. BYRNE replied that he had transfixed the pedicle with a double ligature, had tied on both sides, and had thoroughly cauterized. In regard to puncture for tympanites, he had often done so with great relief to the patient. In the present instance, no trace of injury was found at the autopsy.

THE PRESIDENT inquired as to how the ligatures were passed through the cervix.

DR. BYRNE stated that there was absolutely no difficulty, the cervix being so patulous. In the second case, he had been unable to do so, since the cervix was not open enough. In reply to Dr. Hunter he said that the first case had been pronounced a sarcoma by the pathologist to the hospital.

DR. HARRISON said that, in a recent number of the *British Medical Journal*, Keith stated that it was criminal nowadays to subject a woman to the risk of hysterectomy before testing Apostoli's method of electrolysis. This statement was very significant from an operator whose mortality rate after hysterectomy was as low as 4%.

DR. BOLDT claimed that Dr. Byrne did not use Apostoli's method, since he had substituted a metal plate for the clay electrode.

DR. BYRNE believed that the method he had resorted to was as effective. The material of which the external electrode was composed did not matter, provided the current was distributed over a wide enough surface. His patient had been able to tolerate 300 milliamperes without an anesthetic. The case, however, was not suitable for electrolysis, since the fibroids were multiple.

DR. HUNTER pronounced himself in accord with Dr. Byrne in regard to the electrode.

DR. FREEMAN agreed with Dr. Byrne in the statement that multiple fibroids were not suitable for electrolysis. He did not deem it especially essential whether one or the other kind of external electrode were chosen, the main object being simply to diffuse the current. He latterly had used 400 milliamperes with no unpleasant result, having passed the needle connected with the positive pole through the uterus into the tumor, and the negative pole through the abdomen. He had electrolyzed four cases in the last six weeks and all had done well. He now had a milliamperemeter which would register up to 500.

DR. HARRISON asked why multiple fibroids were not suitable for electrolysis.

DR. BYRNE replied that in order to obtain electrolytic action, one electrode must be in the mass.

DR. BACHE EMMET inquired if either Dr. Freeman or Dr. Byrne had tested electrolysis in case of multiple fibroids.



DR. FREEMAN replied that he never had, for the method would prove too tedious, owing to the necessity of treating each fibroid by itself, seeing that it was essential to insert one pole in the growth.

In connection with the first case reported by Dr. Byrne, THE PRESIDENT inquired if the manner of drainage employed were original with him. He deemed it an improvement over fastening the stump to the abdominal wound, particularly in stout women, where this procedure was so difficult.

DR. BACHE EMMET did not see any special advantage in this method of drainage, but on the contrary deemed it an extra channel for sepsis. He believed it preferable to cut the ligatures short, to trim off the pedicle and to sew it over with peritoncum.

In reply, DR. BYRNE stated that he did not know of any one else having used the method. His object in resorting to it was simply the obtaining of more perfect drainage. As for sepsis, he did not fear it after the use of the cautery.

DR. EMMET noted the fact that the cautery was not used laterally where some of the ligatures came from. He thought that the method he would advocate in preference and to which he had referred constituted a great advance in technique, as doing away with one of the avenues of sepsis.

DR. BYRNE did not think that the ligatures tended to increase the chance of sepsis, but rather to lessen it by making freer drainage. Under frequent douching his patient had recovered without a single septic symptom. The method described by Dr. Emmet would have been impracticable, indeed, should another opportunity offer, he would proceed in exactly the same way.

DR. VON RAMDOHR was under the impression that the method of drainage described has been used by both Schröder and Martin.

THE PRESIDENT remarked that, practically, Dr. Byrne had simply left his patient as was customary to-day after vaginal hysterectomy.

DR. H. C. COE reported the following case :

#### LATE ELEVATION OF TEMPERATURE DURING THE PUERPERIUM.

My reason in presenting this case is not to report anything new or striking, but to reiterate an important fact with regard to the subject of late post-partum fever. In spite of the vast amount that has been written on this subject, the problem remains one for personal solution, and we are constantly encountering cases in which we meet with small assistance from the books.

The following brief history of a case which caused me no little anxiety will serve as an illustration :

A healthy primipara, æt. 24, was under my observation from the third month of pregnancy. She had never had any uterine symptoms, and on examining her at that time I found nothing abnormal. Her general health had always been perfect, and she had never had malaria, nor did she live in a malarial neighborhood. I was particularly careful with regard to the preparations for her confinement. The plumbing was carefully attended



to, and a light upper room, which had not been occupied for months, was selected as the lying-in chamber. There was no stationary wash-bowl in this, or in a small adjoining room, the bath-room and water-closet being at the back of the house. The nurse was more than usually experienced and conscientious, and had attended a simple case of perineorrhaphy before taking charge of this patient, previous to which she had spent several weeks in the country on her vacation. I myself had not performed an autopsy for six weeks, nor had I handled old pathological specimens, or been exposed to infection of any sort; in proof of which it may be mentioned that, during the ten days preceding and following the confinement, I had assisted at five laparotomies, all of the patients having unusually low temperatures. I mention these facts in order to exclude any possible infection through myself. The entire labor lasted about six hours, and was normal in every respect, the perineum being intact. The placenta was expressed according to Credé's method and came away entire. Strict antiseptic precautions were employed. A warm carbolized injection was given immediately after delivery and every succeeding morning. Convalescence was absolutely normal up to the sixth day, when I noted a slight rise of temperature ( $100^{\circ}$ ) at night, which was attributed to mental excitement, as no other cause could be found. There had been no trouble with the breasts, there was no tenderness over the uterus (which was undergoing normal involution), and the lochia were as usual. The temperature was reduced with a 15 gr. dose of antipyrin, and was normal until the next evening, when it rose above  $100^{\circ}$ , the pulse being 96. The patient had been feeling very well, and again no cause could be found for the rise. As the lochia were normal, a vaginal examination was considered unjustifiable, in fact, no finger had entered the vulva since delivery. The temperature declined to normal, or nearly so, and the patient had a good night. At 7 o'clock on the morning of the eighth day, without any warning, she had a chill, and her temperature shot up to  $105^{\circ}$  (in the axilla). It had dropped to  $103^{\circ}$  when I saw her an hour later, under the use of antipyrin, and she was perspiring profusely. I at once made a careful vaginal examination, and could find absolutely nothing to account for the fever. There was no tender spot in the pelvis or abdomen. The uterus was firmly contracted, the cervix slightly lacerated on one side, and the os somewhat patulous. As the lochial discharge had a strong odor, I washed out the uterus with carbolic solution, and dislodged a few clots and shreds which were not offensive. Thirty grains of antipyrin had been given. At 10:30 A.M., the patient had a very severe rigor, her temperature rising to  $106.6^{\circ}$ , her pulse to 140, while she became delirious. Having again failed to discover any extra-uterine trouble, I came to the conclusion that there must be some offending material in the uterine cavity.

I placed the patient on the side, exposed the cervix through a Sims' speculum, and used the curette thoroughly, removing a quantity of broken-down tissue, which, however, did not have a particularly offensive odor. The vagina was carefully examined at the same time, but no lesion could be found. The uterus was then thoroughly irrigated with nearly two quarts of carbolic solution, a quantity of clots and shreds being washed away. The temperature fell rapidly, being nearly normal at noon. Dr. Morrill saw the patient with me at 2 P.M. Her condition was unsatisfactory, her pulse being 132 and very weak. Ordered *inf. digitalis*,  $\frac{3}{4}$  ss. every four hours and stimulants. She improved rapidly and was in good condition during the night, but at 8 o'clock the next morning she had another chill, the temperature rising in an hour to  $105.2^{\circ}$ . Antipyrin was given as before, and the uterus was washed out, but the temperature fell very slowly, reaching  $99.8^{\circ}$  at 5 P.M.; at 5:30 the patient had a severe chill, and the temperature half an hour after was  $106.6^{\circ}$  (axillary), the pulse 140. I again used the curette, but removed only a few shreds of tissue, without odor. An iodoform suppository was introduced into the uterus. The temperature at 10 P.M. was normal and remained so until the evening of the next day, when it rose gradually to  $103^{\circ}$ , without an accompanying chill. Forty grains of quinine were given during the day and the uterus was washed out with bichloride three times. It was twelve hours before the temperature was normal. The intra-uterine irrigation was now suspended; doubtless it ought to have been before, as it did not affect the temperature at all. During the next twenty-four hours 50 grains of quinine were given, but at the end of this time the thermometer registered  $104^{\circ}$  (at 7 A.M.); no more chills. It fell to normal at noon, and began to rise at 2, reaching  $103^{\circ}$  at 8:30 P.M. Antipyrin now seemed to have little effect. On December 3d (13th day after confinement), I followed Dr. Morrill's suggestion, giving 20 grains of quinine at noon and 20 at midnight. The temperature never exceeded  $99^{\circ}$  after that day, and the patient convalesced rapidly, being now (at the fourth week) up and about.

In spite of the negative results of the various examinations, I cannot avoid the inference that there was a septic element in this case. How the infection occurred it is impossible to say. I do not believe that there was any septic material within the uterus. The curetting and injections seem to be of little benefit, in fact, I am rather inclined to question if they did not do harm. Moreover, it is difficult to believe that this septic infection from the endometrium could go on for a whole week without leading either to an offensive discharge, tenderness in, or around, the organ, or to trouble outside of the uterus. Of course, we naturally ask if the fever may not have been malarial in character, since it seems to have yielded finally to quinine. But large doses had no

effect at first, and the fever was (at least during the first two or three days) of too irregular a type for intermittent. Why did the chills cease after the first two days? I have seen cases of late elevation of temperature (once on the twelfth day), when the cause was long obscure, until finally an induration developed at the side of the uterus, but no such explanation could be urged in this instance, and I still remain in doubt as to what was the matter with my patient, and whether she recovered any more rapidly because of my local treatment. In conclusion, I can only say that, so far as my observation goes, there is a tendency (at least among gynecologists) to wash out the uterus too promptly and vigorously on the first rise of temperature, where no clear local cause can be found. I recognize the fault in myself. It seems so simple a matter to curette and wash out the non-puerperal uterus, that I am too prone to forget how much more vulnerable is the same organ during the puerperal week. I agree in this respect with the conclusions in Dr. J. S. Knox's article on "The Use of the Curette and Intra-uterine Douche after Labor at Term" (*Journal Am. Med. Association*, Nov. 12th, 1887), viz.: The intrauterine douche should only be used where there is positive evidence that there is putrid or septic material within the cavity, and the curette only after the douche has been repeatedly used in vain. When thorough irrigation has been tried, it should be discontinued. This is the advantage of introducing iodoform suppositories, although I conceive that there may be some risk in doing this, just as in curetting. If there is doubt as to the *uterine* origin of the sepsis, use vaginal douches alone. If there is localized inflammation without evidence of intra-uterine trouble, irrigation will do harm rather than good. In fact, it is quite probable that under any circumstances it may increase existing para- or perimetritis; curetting would certainly tend to do so. Such irrigation should not be used simply to lower temperature.

THE PRESIDENT inquired how many days the fever had lasted.

DR. COE replied that the temperature had risen on the sixth day and had not declined till the thirteenth.

To questions by DRs. HARRISON and VON RAMDOHR as to whether the nurse had administered the injections during the first few days, DR. COE replied in the affirmative.

DR. HARRISON considered that there were two forms of infection: in the one, due to pathogenetic micro-organisms carried to the patient by the nurse or physician, the symptoms began about the third day; in the other, due to what might be termed ubiquitous micro-organisms, where neither the physician nor the nurse was at fault so far as hands and instruments were concerned, the infection began later and was improperly called autogenetic. He was inclined to rank Dr. Coe's case in this latter category.

THE PRESIDENT considered the case to be an instance of puerperal pyemia. He had seen a similar case some years previously,

where the infection apparently started from a wound caused by a hypodermic injection.

In connection with this point, DR. FOWLER referred to a case he had recently seen, where, owing to sharp post-partum hemorrhage and collapse, numerous hypodermic injections were called for. One of the needles broke in the patient's thigh. The case did well up to the thirteenth day, when the patient had a sharp chill, followed by a rise of temperature to 104°. He had ordered quinine; on the following day there occurred a second chill and fever to 103°. Quinine was again administered and there were no further febrile symptoms. He had not been able to find the broken needle, and he queried if it could be at the bottom of the disturbance.

DR. FREEMAN believed that Dr. Coe's case should be classed as malarial. He had seen many such instances and had found that a large dose of quinine uniformly would break up the fever.

THE PRESIDENT considered that, ordinarily, malaria would pronounce itself before the seventh day.

DR. HARRISON thought it unfortunate that the term malaria was so frequently applied to febrile symptoms occurring during the puerperium. He saw very frequently in consultation unmistakable cases of sepsis which were being erroneously treated as malarial.

---

## TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

---

*Stated Meeting, May 20th, 1887.*

DR. A. F. A. KING, *President, in the Chair.*

DR. W. W. JOHNSTON read a paper entitled,

CHRONIC ANEMIA AND WASTING IN NEWLY MARRIED WOMEN. SOME  
OF THE CAUSES OF THEIR PERSISTENCE AND INCURABILITY.<sup>1</sup>

DR. D. W. PRENTISS opened the discussion. He said that the subject was an extensive one and covered a large class of troublesome cases. All have observed anemia more frequently in women than in men, but he cannot agree with the reader that the condition is entirely a result of sex, but of concomitant conditions, in part the outcome of civilization—as, for instance, the mode of dressing. One of Dr. Johnston's cases is mentioned as having a contracted chest.

His opinion is, that an examination would frequently disclose this deformity which is due to the style of dressing. The fashionable tightly laced corset displaces the abdominal and thoracic organs, the nerves are pressed upon, digestion is deranged, and malnutrition follows.

If the woman could lead the life of a man, she would to a large

<sup>1</sup> See Original Articles in this number

extent be freed from her susceptibility to anemia. Dress, however, is not the only cause of this disease. The usual in-door and inactive life of woman, the inhabiting of close rooms, and, if in fashionable society, late hours, may be added as being causative.

Last New-Year's day he saw a young lady who had prepared herself for the customary "receiving" on that day. She had been attacked with vomiting and syncope. Tight lacing was the cause of it, as he was informed by her hostess that she had seen the young lady hitch her corset-strings to the bed-post and thus tighten her corsets to the utmost extent. She refused to loosen them because she said she would not be able to fasten her dress.

The other day, a girl of 14 was brought to him for advice. She was suffering from cough, loss of appetite, and malaise. He found that she was tightly laced. He ordered her to take off her corsets, wear her clothes loose, and the lower garments suspended from her shoulders, and gave her besides cod-liver oil. In a week she was much relieved, which was probably due as much to the dress reform as anything. This dress reform, which consists in loose or no corsets, and of suspending the lower garments by means of suspenders from the shoulders instead of from the waist, he thought should be advocated by every physician as being prophylactic against the conditions of which we are talking.

Another case was a lady of 44 who had had eight or nine children and had been in bed for weeks after her last child. The uterus had been slow in returning to its proper condition, but was, when he saw her, all right.

In spite of this, she had dyspepsia, palpitation cordis, and general debility, all of which was probably not so much due to the labor as to nervous exhaustion, she having, while carrying, had to nurse several of her children through scarlet fever.

He, two years ago, had another case of a lady who was much emaciated, and so feeble that she could scarcely walk a block. There was retroversion of the uterus, and to this most of the treatment was addressed, he making her at the same time wear loose clothes. She is now well and he attributes the cure as much to the freedom of dress as to other treatment.

Dr. Bowditch, of Boston, made some experiments upon the public school children of that city. He found that up to puberty the boys and girls maintained the same relative ratio of growth.

At puberty the girls increased in weight more rapidly than the boys, the latter, however, eventually caught up to the former and advanced by an increased ratio. It does not seem, therefore, that sex, *per se*, is the most potent factor in the anemia of women. Nor can we say that the periodical loss of blood is a very active cause. It was formerly held that a good bleeding was a stimulant to increase of weight, and cattle breeders believe this so thoroughly that they frequently bleed their animals to make them fat.

He would like to ask Dr. Johnston if the constriction of the bowels following chronic constipation was a theory or has it been proved by fact.

Our Ex-President not long ago ascribed to high-heeled shoes a place as producers of female complaints, which well illustrates the necessity of reforming the women themselves in order to avoid some of the troubles of sex.



Some persons, either men or women, never become stout or accumulate adipose tissue, while others are always fat. One of Dr. J.'s cases which had been suffering for twelve years might have been one of the kind whom nothing would have made fat. As fat is an element of force, the thin person will have less resistance, and unless the daily loss of heat is daily supplied, they will not stand labor as well as a normally fat person.

A person who increases in weight also takes on increased amount of blood.

Dr. Johnston left no room to discuss the subject of treatment. Dr. Weir Mitchell's rule in such cases is absolute rest, not only in bed, but also freedom from family cares, and she must be in charge of an unsympathetic, but kind and firm nurse, which is an essential part of the treatment.

In addition to this is massage, electricity, and forced feeding.

Fat persons may also be anemic, and in these cases the object is first to reduce the fat.

Mitchell treats these cases with a limited amount of skimmed milk. They are weighed every day, and when the stomach is working well, the food is gradually increased, and with the improved condition of the blood, the fat once more increases.

We must eliminate malignant and organic diseases as a cause of the anemia. He knew of a case which had been treated for anemia, and the existing cancer of the stomach was never suspected until the autopsy. In organic disease, the treatment for anemia alone, except as being palliative, will be equally futile.

Constipation is to be avoided, and for this purpose he has found a pill of aloes, strychnia, and belladonna, or massage effective. Dr. Mitchell recommends aloes and ox gall.

THE CHAIR said that there was still one factor of treatment which he had already spoken of, but whose value he thought was not yet fully appreciated, and that was an increased amount of water over what is generally taken by women.

He has been told by patients that they cannot take more fluid than they do, but he has generally found that they can. We know that all evacuations and excretions consume a certain amount of fluid which must be replaced.

He has often formerly given medicine without much effect until, upon asking the patient, he found that but little water was being taken. Upon increasing the ingestion of this, the medicines would act more effectively.

Drs. Johnston and Prentiss have referred to the use of corsets as being a factor in the ill-health of women.

Years ago, he published an article, in which he took the ground that the portal circulation was dependent upon the motion of the diaphragm in breathing. This motion was interfered with by corsets, hence the portal circulation was delayed.

It has been proved by Dalton and others that the portal circulation is not dependent upon a ventricle for its propulsion, but that it passes through its circuit without cardiac impulse.

DR. H. D. FRY said that the advice to get married is often given to young girls in order to improve their health. This may be the result in some cases, but it is becoming more and more evident year by year that married life for young women is deleterious to their health. He has frequently seen previously healthy girls break down completely after marriage.

He thinks that Dr. Prentiss has laid too much stress upon the desirability of fat, for, as the essay states, obeseness and anemia may be coexistent.

He agrees with the previous speakers as to the harmfulness of corsets.

A fact which he has noticed is, that but few mothers can nurse their children. In the higher classes, even among those who are willing to do it, it is rare to find a mother who can nurse her child to weaning. He thinks that at least seventy-five per cent of mothers cannot do this, and after awhile a woman who can nurse her child to weaning will be looked upon as being a curiosity.

In his opinion, the number of displaced uteri are increasing, and the difficulties of rectifying them even after pregnancy is very great. He had a case of a young lady who had a retroverted uterus and dysmenorrhea for some years before her marriage. In three days after her first delivery, the uterus was back in its old position. Her health was, however, a little improved. Just before her second confinement, he kept her in bed and off her back for a week, hoping that gravity would relieve the displacement. In three days after the birth of the child, the uterus had sunk back into its old place, and he has had to use supports ever since.

DR. MACARDLE thought that it was a dangerous doctrine to teach that young women break down after marriage. His experience has been that they thrive on child-bearing, and even if some married women have to some extent broken down, they are usually better off in health than the old maids after the menopause.

DR. S. C. BUSEY said he had no doubt that injudicious and improper dressing was a fruitful cause of female ailments, but the anemia of young married women, the fruitful as well as the sterile, cannot be ascribed solely to improprieties of dress, much less improper corsets and tight lacing. Many women who lace tightly are not anemic, and many anemic women are not tight laced. The fashion of dress is one of the reprehensible practices of the present day, but there are many others far more potential and prevalent in the causation of disease. He agreed with Dr. Fry that the percentage of young married women who could supply sufficient milk for their children is rapidly diminishing. Many are breeders, without the capacity for nursing. In this, fashion is not without her votaries. Some will not discharge the obligations of maternity, because to do so would deprive them of the pleasures of society, and others intentionally unfit themselves for maternal lactation by indulgence in the excesses and improprieties of life. The anemia of matrimony, pregnancy, and maternity among young married women have a far wider significance than anything which relates to the changing styles of dress and conventionalities of society. Too early menstruation, precocious puberty, and too early marriage is the successive combination of conditions in the life history of young married women, associated with lactation or futile attempts at nursing, and the anxieties of maternity are far more frequently the causes of anemia among that class of women than tight corsets. If matrimony could be delayed until the later years of the period of maximum fecundity or, better still, until the period of maximum fertility, we would see fewer such cases as have been



described by Dr. Johnston. The pathological conditions of the anemia of pregnancy are quite well understood. When these are imposed upon the constitution of an immature girl, and immediately followed by the spoliative influences of lactation, to which are usually added the most extraordinary anxieties of maternity which fashion and imitation invoke, it is not surprising that so many young married women break down in health, and suffer for a longer or shorter period during after-life.

Innutation and malnutrition during adolescence are also prevalent causes. The anemic bride, the pampered, coddled, and badly nourished girl usually makes a sickly mother. The habitual constipation of young women is another very common element of causation. It is usually the result of habit, and improper alimentation, overstrain of the mental, and cultivation of the emotional functions, at the expense of the physical development, are also very constant concomitant conditions.

Then, again, many young married women are terrified by the fabulous stories and bad advice which the sex is so proverbially fond of disseminating.

DR. G. TABER JOHNSON thought that it would be an interesting thing to compare the effects of labor upon a certain number of women in the higher classes with the same number of Indian or colored women, and thus to prove if it is the customs of society or of early training which is to blame for the ills that mothers are heir to. The worst case of anemia he ever saw was in a woman who was not, but who wanted to be married. For nine years she had been an invalid, but she has been roused by the Weir Mitchell treatment, and is now much improved. In this case, the same kind of effect, or nervous prostration, was produced by the excitement of the same set of organs that would be affected in sterile married women. Constant and long brooding over her unmarried condition had used her up.

DR. W. W. JOHNSTON said that he had not attempted to solve the problem why anemia was more frequent in women than in men, but he tried to show the etiology of it in females.

Girls at puberty have fluctuations in their economy, as menstruation, which have no parallelism in man. One cannot therefore prove much by the statistics produced by Dr. Prentiss. Women will make blood quicker than men and can lose more without showing it than men can. A woman will saturate a sheet with blood, and yet be up and about in a few days, but just as she seems more capable of this rapid recuperation, so also will she fall into a state of profound anemia quicker than a man.

Tight lacing he believed was not the chief cause of anemia in females, for in the time of Louis XIV. tight lacing was in vogue, and besides women from the country who never have laced are sufferers from anemia.

One of the cases just reported had a large waist and pelvis.

A most interesting question is, Why do some women get well and others fail to?

Although autopsies upon these cases are rare, there are certain well-defined lesions visible. The digestive organs undergo a change. The kidneys and heart decrease in size, and the arterial system cannot carry blood enough through the body, even if there was blood to carry.

In the chronic constipation of melancholia, it has been noticed that there is a shrinkage in the calibre of the intestine, and this is true also in anæmia and hypochondriasis.

In one of his cases, in which there was chronic constipation, there has been a gradual contraction of the colon until now an enema will only bring away stringy, small-sized feces.

He has been surprised to find how little is said, even in the best works, of the production of the red blood-corpuscle. The best authorities merely mention the fact that they are probably produced by the red bone marrow, especially that of the diploë. Not to know where red blood-corpuscles are made robs us of much of our accuracy of treatment.

The treatment was not gone deeply into, as the subject is too broad for a single essay.

## TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

*Annual Meeting, Friday, October 22d, 1887.*

*The President, CHARLES WARRINGTON EARLE, M.D., in the Chair.*

I.—The following officers were elected for the year, 1887-1888, after the reports of the secretary, treasurer, and editor were accepted:

*President.*—Henry T. Byford.

*First Vice-President.*—Philip Adolphus.

*Second Vice-President.*—Addison H. Foster.

*Secretary and Treasurer.*—Edward Warren Sawyer.

*Editor.*—W. W. Jaggard.

THE PRESIDENT then read the following

### ANNUAL ADDRESS.

FELLOWS OF THE CHICAGO GYNECOLOGICAL SOCIETY:—The medical year now closing has been such an active one to the profession in Chicago in the matter of conventions—State, national, and international—and so many papers have been read and listened to, that it would be, perhaps, a merciful thing not to inflict another.

But the retiring officer can say some things that his successor cannot, and both custom and possibly inclination make this address admissible. The retiring officer can both thank and castigate the Society; the incoming president must be rather on his good behavior.

The secretary and editor will narrate the extraordinary work accomplished by the Society, will tell of its fame in foreign lands and its value at home, and so nothing is left for me to do except

to plunge at once into the subject that I believe is of more importance, not to you as representative men in the advance of obstetric practice, but through you, as teachers and members of a special society to the great mass of practitioners whom your words influence, than any other. I mean the influence of the development of the germ theory on the practice of obstetrics. The words of experience which come from Fellows of this Society regarding laparotomies, Alexander's operations, and total extirpation of the uterus are most valuable to a few—possibly one in one hundred or one in one thousand, for not more than that number should do these operations, although more than that number may attempt them. But the inculcation of the duty to practise aseptic obstetrics applies to nearly every practitioner, for out of the great multitude of doctors there are found very few who do not practise this art and science.

I speak to-night to the members of this Society and a few others who honor us by their presence. I shall not be satisfied, however, if the general idea advanced in this address is not felt by a much larger number. I believe so thoroughly in the modern practice of obstetrics, and am so convinced that it is saving more valuable lives than are saved in any other department of medicine or surgery, that I may be pardoned for speaking so often and at such length on the subject.

Not many months since, Mr. Lawson Tait paid a visit to Prof. Tarnier at La Maternité. The professor called the attention of Mr. Tait to a linear chart on the wall of his room, showing the total death rate of women confined in that hospital from 1792 to 1886.

This record is divided into three periods: the first that of inaction, in which the mortality was from 9.3 to 20 per cent; the second the battle of hygiene against infection and contagion with a mortality of 2.3; and third, the victory of antiseptics, with a mortality of less than 1 per cent, and in the Tarnier Pavilion, a little maternity constructed under his immediate direction, since June, 1880, with 785 deliveries, not a death has taken place.

If time permitted, I could obtain and set before you nearly the same results in the Prague Maternity under the wise direction of Prof. Breisky, the Copenhagen Maternity under Prof. Stadfeldt, and in Vienna in the wards of Prof. Braun and Spaeth. It is not necessary, however. The days of epidemics, of puerperal fever in hospitals, with a wise administration are past. But why is it necessary to return to those scenes; why expedient to again call to mind such a murderous mortality? We must recollect that these results are in hospital practice; the returns are not in from private practice. How were these results brought about in the great maternities, surrounded with the so-called nosocomial atmosphere, and what efforts are now being put forward to lessen the death rate in private practice?

About the year 1847 Semmelweiss wrote: "Puerperal fever has existed for two hundred years; it is time that it should disappear."

Concerning puerperal fever in ancient times we know but little. Litzman believes it should be classed among the modern diseases. But in 1664 it raged in the Hôtel Dieu, in the Dublin Maternity in 1672, and again in 1774 in Paris and Dublin, and up to the end of that century in Vienna, Berlin, Giessen, Copenhagen, St. Petersburg. In the last-named place, in 1825, one in eleven died; in Lombardy, between 1786 and 1787, not a patient survived.

In view of these facts, we are not surprised that Semmelweiss declared that it was time that this murderous mortality should disappear.

Attempts had been made as early as 1757 and 1786 in the direction of what we now consider antiseptic methods. At the date first mentioned, Recolin suggested intrauterine injections; and Levret, one hundred years ago, wrote (quoted from Bar): "If there be any putrefaction, I obtain its discharge and that of the foreign substance by means of aqueous injections made into the cavity proper of the womb, and I find it very useful."

During the early part of this century, investigations to determine the cause of puerperal fever were carried on with vigor. Obstetricians made repeated autopsies, with the hope of finding the peculiar lesion. But in many instances, at least, the more autopsies they made the greater their mortality. Semmelweiss inaugurated certain prophylactic measures concerning autopsies, and he lessened the mortality. He insisted that the chloride of lime should be used for personal disinfection; he maintained that the disease was infectious, and that it came from both within and without the woman. There is no evidence that Semmelweiss grasped to any extent the doctrine of germs, but the position which he assumed was occupied and maintained in the face of ridicule and abuse. He was far in advance of any who had attempted to grasp the subject, and in 1860, when he published his treatise giving the results of his ripened experience, he had abandoned his first exclusive position and promulgated a theory which we can accept to-day, with the addition of giving the germ theory as the cause of the phenomena which he so clearly explained.

In 1870 to 1872, the influence of microbes in the etiology of disease began to be noticed, and in 1878, Pasteur began his investigations, from which we commence to collect data to prove what is now known as demonstrated in regard to germs. Previous to this, however (1857), Tarnier demonstrated the contagiousness of puerperal fever by inoculation. Mayerhofer (1870) viewed the micro-organism in the putrid discharges of childbed women, and Orth, Klebs, Hiller, Koch, Rokitansky, and others were conducting their researches. About 1880, Pasteur believes he saw the

microbe of puerperal fever. Condensed for practical use, it has been demonstrated:

1. That the air and water of the earth is crowded with organized microscopic beings.
2. They live and multiply at the expense of organized matter.
3. Their penetration into tissues produces disease.
4. The skin, respiratory and digestive passages furnish the channels into the body.
5. A healthy tissue has never produced a microbe.
6. Any abrasion of tissue against which these microbes come makes it possible for them to enter the system.
7. Unless germs are brought from without there can be no infection.
8. Many things in regard to the virulence, nature, attenuation, age, and development are yet under consideration.

The appliance of these principles, with many others undoubtedly which I fail to enumerate from lack of time—and possibly I do not at this moment comprehend them—has given the victory to antiseptics in hospitals. With a mortality of only one-half per cent, but little more can be expected. But what can we say regarding the mortality in private practice? Is it necessary, is it expedient, is it possible to apply antiseptic measures? I have already remarked that the returns from private practice are not in; they never will be, they never can be, and until it is understood that what is called by so many milk-leg is puerperal infection, that in many cases mastitis is puerperal infection, and that chills and perspiration and abdominal tenderness after confinement is not necessarily simply malaria or a mixture of typhoid and malaria, but in the main is puerperal infection—I say until these things are better understood, and the great mass of practitioners are willing to call things by their correct names, a truthful percentage of deaths from puerperal cases in private practice can never be known.

From time to time indirect and unexpected testimony comes to us in regard to mortality from puerperal disease in private practice. A student of mine, now practising in Michigan, narrates to me that a neighboring practitioner has lost twelve in six months. It has become a standard quotation in obstetric literature that many years ago a celebrated obstetrician with a purulent catarrh in four years and nine months had ninety-five cases of puerperal fever with eighteen deaths.

In one insurance company whose papers I have examined, one hundred and eighty-seven mothers of those applying for insurance had died, and thirty-two of these, more than seventeen per cent, succumbed to some form of childbed disease.

In another, with a mortality of one hundred and sixteen mothers, thirteen, or a trifle over ten per cent, had died.

Reiterating again that the practice of clean or aseptic obstetrics

will save more lives than can be saved in any other department of medicine or surgery, what are some of the means which we can use in its practice in private families—in other words, how far can we apply what has been demonstrated as reducing the mortality in hospitals to our work in families? It is not necessary to speak of isolation; apartments in private dwellings are hardly ever so crowded with the sick as to insist upon this. We should, however, see to it that the air is pure, and if infectious diseases have taken place, take measures to destroy their germs. With the possibility of saving a human life, or at least averting from two to six weeks of prostrating illness with its anxieties, expense, and uncertain prognosis, it is not asking too much if there is the least suspicion of a poisonous atmosphere that the room shall be disinfected. A few hours before an expected confinement the room may be fumigated with sulphur, or the walls dampened with carbolized or mercurial water. In this way a great amount of accumulated dust is either rendered aseptic or thrown down upon the floor or carpet, which may also be disinfected. It will, of course, be nearly impossible to dispense with curtains and carpets in private sick-rooms, and in ordinary cases it will not be necessary. The furniture may be washed, however, with carbolized water, and, above all, the bed and its bedding can be clean. It may be suggested that such instructions are superfluous, and that the lying-in bed is always aseptic. In general practice this is not so, and many a practitioner has confined a woman on a mattress previously used by a diphtheric or erysipelatous patient. In the main, it is because the people are ignorant of what these surroundings produce, but the average obstetrician is not free from serious responsibility that renders this practice so dangerous, not to say sometimes deadly.

With the room and its appointments made pure, it will be well to see that the patient has some definite instructions as to her preparations. As soon as it is known that her confinement is about to take place, I am in the habit of requiring her to take a warm bath, at the conclusion of which the lower part of her person is to be washed with carbolized water. It is also requested that one or two carbolized vaginal injections shall be taken during the first stage of her labor.

In regard to the nurse:

Not many days ago an elderly woman, acting in the capacity of nurse, looked at me in perfect astonishment as I washed my hands with soap and hot water, and used the hand brush with a sublimate solution before making an examination, and when later I tossed a half drachm of iodoform into the vulvar orifice where the tissues were somewhat contused, she exclaimed, "What will he do next? These doctors are so different;" and this lady had credentials from several able medical men, and probably was the particular pet of two or three who were not "so different."



I have no hesitation in saying that, in my judgment, the occupant of many a lying-in chamber has yielded up her life, and the earthly career of many a babe commenced without the love and tender care of a mother, through the filth and ignorance of the so-called practical but untrained nurse. The position of nurse is too easily acquired—a woman whose husband has died, a woman whose husband is unfortunate in business, a woman who desires a little ready money—without a particle of training, without the faintest conception of what infection means, is frequently and eagerly employed to fill these responsible positions. And these midwives caring for a child with purulent ophthalmia in one house, confining a woman in the next, and washing the external genitalia of a septic patient in the third, no wonder lying-in patients die. These uneducated people—nurses and midwives—go from place to place with their little hand-bags containing dirty aprons, septic catheters and syringes, and with emanations from their persons of kerosene and valerian enter the lying-in chamber to scatter germs of infection.

Some years ago, I was at great loss to understand the cause of a mild infection in the person of a wealthy Jewess confined in her beautiful home and surrounded with luxury, and where I had taken the utmost antiseptic precautions, the incautious remark of the nurse that the patient previously attended by her had a milk leg explained it fully.

If everybody is to nurse, we must insist that they subscribe to certain rules of cleanliness, and have some knowledge of the etiology of puerperal disease.

Precautions to be observed by the doctor:

To believe that he may carry the poison from one patient to another is his first great duty. This acknowledged, he will take some kind of care, varying from a brief exposure in fresh air to complete antiseptic precautions. One of the most able and convincing arguments ever set forth, and which accomplished a vast amount of good and saved many a mother's life, was the essay of our own countryman, Dr. Oliver Wendell Holmes. As early as 1843, while the intellect of Semmelweiss on another continent was revolving the same subject, Dr. Holmes established and set forth the following: (1) Obstetricians should not take active part in autopsies. (2) If so engaged, he should allow some hours to elapse, and change his garments before attending a case, and (3) the inexpediency of obstetricians attending cases of erysipelas and certain other diseases. Since we now know that, by the use of disinfectants, the contagious principle can in most cases be destroyed, it is probable that, with proper and efficient antiseptic precautions, it will not be necessary for us to remain in quarantine. But the only safety, in addition to knowing the virulency of germs, is to be willing to disinfect one's person and know how to do it. If we appreciate a danger, we will take care to avoid



it. The time has not come when many of us can refuse to do general practice, to attend cases of scarlet fever and diphtheria, and open abscesses, etc., etc. But if we realize the fact that we have made ourselves partly or wholly septic, and desire and know how to make ourselves aseptic, we are undoubtedly in a safe position as regards our patients. It is the carelessness and inactivity of which I complain.

It is futile to claim that absolute cleanliness is practised in anywhere near a majority of cases, or that any attempt is made toward antisepsis. It is done by a few, but the great mass must still be brought up to it.

In 1875, Dr. Foote, in a paper on puerperal peritonitis, read before the Illinois State Society, presented evidence something like this: A doctor, with a phlegmon on his finger, attended a lady in confinement. She died in a few days. She was nursed by her husband, who soon after had erysipelas. In other cases, diphtheria was present in houses where confinement occurred, and puerperal peritonitis followed. Another gentleman reports an epidemic in his county with sixty or seventy cases, and yet nothing was suggested. This is the period of inaction with us. We are theorizing in regard to contagion and infection. The battle against them with cleanliness and antiseptics has not commenced.

As late as 1881, one of the ablest obstetricians in our State wrote: "If pains are frequent and regular and so efficient as to have dilated the os uteri to the size of a dollar, the attendant engages two fingers in its lumen, and gently dilates it."

The development of the germ theory has brought out the facts that such interference is not only unnecessary, but is attended with danger of infection. In the majority of cases, it is not necessary nor good practice to dilate the os uteri artificially; indeed, our instruction and practice should be to make very few, if any, vaginal examinations. When the doctor enters the lying-in chamber, he should have the supreme knowledge that he is aseptic. He should freely use the hand brush with soap and water, and it is hardly necessary for him to make more than one or two examinations. The finger should be lubricated with iodoform mixed with sweet oil or vaseline, or a sublimate solution. Let as far as possible the position of the child be made out by external examination. In addition to the doctor's clothes and person being aseptic, there should be a full and complete conception of what autopsies and personal contact with scarlet fever, diphtheria, erysipelas, and suppurating surfaces will do. The studies of the past few years have demonstrated this. If it was suspected before, its full significance was not known. Let the placenta be expressed, not following perhaps all the details of Credé, but with slight traction on the cord and little pressure from above. It will not be necessary in a percentage of cases worth

mentioning to pass the fingers into the vulvar opening after the birth of the child. If there is a ruptured perineum, let it be closed at once, using all antiseptic precautions. If there are contusions of the parts without laceration, or if the laceration is only very slight, wash out superficially with a little carbolic or sublimate, and throw in thirty to sixty grains of iodoform. And if there is the least suspicion of a tainted atmosphere, if, notwithstanding your instruction everything external is unclean and in some cases filthy, see that there is no gaping of the vulvar orifice, and protect the parts by the application of a piece of lint six by four, saturated with some disinfectant; this to be changed as often as soiled.

Attention to these four things will absolutely change the results in general obstetric practice: (1) The antiseptic hand; (2) the clean patient; (3) few, if any, vaginal examinations; (4) antiseptic precautions to the lower part of the parturient canal.

Time will hardly permit me at this occasion to more than allude to antiseptic precaution to be taken in dangerous, difficult, and impossible labors. If the forceps are used, they should be thoroughly washed and brushed before introduction, and covered with vaseline and iodoform; a vaginal antiseptic douche should be given before and after the delivery of the child. As to whether an intrauterine disinfecting douche should be given after forceps delivery is perhaps an open question; but after all operations where the hand has been introduced into the uterine cavity, this should always be done. If post-partum hemorrhage take place, give a hot antiseptic douche rather than to introduce medicaments, which may produce infection, and if, from any cause, dilators or a tampon or the colpeurynter are used, let them all be aseptic.

There are a few things applicable to patient and nurse, and it appears to me that it would be well to have something in the same line presented, and upon taking an obstetrical engagement hand a copy to both.

To the patient. Let her understand that strict attention to instructions which you will give her will insure, almost absolutely insure her against those complications which make the getting up so tedious. You make the following suggestions:

1. The lying-in chamber should be in a room where no infectious diseases have been treated, and all bed clothing should be prepared by boiling in a given per cent of carbolized water. Do not select a mattress which is filthy for fear that a better and cleaner one will be soiled by blood and other discharges during the confinement. Do not provide pieces of old comforters, the sanitary condition of which is problematical. Let all appliances for the lying-in chamber be those with the history of which you are familiar. Do not borrow syringe or bed-pan, and assure yourself that those you have are boiled or washed in hot water and thoroughly carbolized.

To the nurse. She must be a believer in cleanliness, and must recognize that the doctor is to be the director of whatever is to be done. No instruments, appliances, package of roots or herbs, or garments of any kind which have been used in other lying-in chambers are to be taken to other patients. The clothes she wears are to be thoroughly washed in a carbolized or mercurial solution, and she is to acknowledge that she believes in the use of the hand brush and soap. She is to make no examinations in your absence, and never touch the female genital organs without cleansing her hands in some disinfecting fluid. If she has been in attendance on septic patients, she is to receive instructions from the attending physician as regards the method of personal disinfection.

It is only by the observance of such rules applied to doctor, nurse, and patient that we can approximate the results now attained in hospital practice. It is the practice which the development of the germ theory has forced upon us. We cannot avoid it, and to you as teachers and leaders in obstetrical and gynecological work is left very largely the duty of inculcating these principles, and seeing to it that the great mass of practitioners give every parturient woman, whatever her station, the benefit of it.

“ A mother is a mother still,  
The holiest thing alive.”

Permit me, gentlemen, in closing, to extend to you my personal thanks for the great honor you bestowed in electing me your presiding officer for the past year, for your friendly consideration during the term, and for the happy greetings and kind words of the evening.

The Society then adjourned to the president's banquet at the Grand Pacific Hotel.

---

*Regular Meeting, Friday, November 18th, 1887.*

*The President, HENRY T. BYFORD, M.D., in the Chair.*

DR. W. W. JAGGARD exhibited

THE NEW NORMAL FORCEPS OF PROFESSOR LAZAREWITCH.

The instrument was presented to the Section on Obstetrics, Ninth International Medical Congress, and its full description can be found in the Transactions, now in the printers' hands.

The forceps is straight, *i. e.*, without pelvic curve; the branches parallel; the lock, a tenon fitting into a mortise. Uncharitable critics might regard the instrument as an example of reversion to the original type of forceps. Johann Palfyn, a surgeon of Ghent, presented to the Academy of Paris, in 1723, a forceps, termed *manus ferreæ Palfynianæ*, which, in many essential particulars, resembles the instrument devised by Lazarewitch after twenty years' experimentation.

THE PRESIDENT presented the following specimens:

HYDRO-SALPINX.

The tube is dilated to a diameter of two and one-half inches. Before being put in alcohol the distended walls of the tube seemed as thin as tissue paper and the whole tumor almost transparent. The uterine end of the tube is pervious. The patient is 38 years old, and was never pregnant. She married fourteen years ago, was taken very sick in a short time, and did not live with her husband afterward. She has not been well since. She married again three years ago, lived with her husband eight months, and dates her severe illness from this marriage. She claims to have had one or two watery discharges from the vagina about the middle of each menstrual period, preceded by an aggravation of her symptoms and followed by relief. As her pains were on both sides, she concluded that the discharges came from both sides. At the first examination, made soon after a vaginal discharge, I found no tumor; at the second, I easily felt the dilated left tube. As you see, the ovaries are about twice their normal size. The right tube, which was small and imbedded in lymph on the posterior surface of the broad ligament, could not have been removed without tearing the ligament, and was not disturbed. The right ovary could not be pulled out at the incision, and was ligated with some difficulty. The recovery was easy and uninterrupted. The reason for the operation was that she was an invalid, unable to earn her living, and had no one to depend upon.

DR. NELSON.—Was there any suspicion that there had been any specific disease?

THE PRESIDENT.—From the history I considered the disease to be of gonorrheal origin.

FIBRO-SARCOMA OF THE UTERUS AND BROAD LIGAMENT.

This specimen of fibro-sarcoma of the uterus is interesting as having been obtained by one of the most difficult hysterectomies on record. I have the following notes of the case:

Mrs. E. W., American, aged 40, widow; had been married twenty-two years, having borne four children, the oldest twenty years of age, the youngest twelve years old. Four times since the birth of her last child she has miscarried at the third month. Her present illness began six years ago, when she discovered an enlargement in the left inguinal region. There was no pain connected with it, but the last miscarriage, three years ago, was extremely painful. After recovery the pain in the left side subsided. One year ago, the growth began to increase in size, and has grown very rapidly since. There was dull, heavy pain through the pelvis. Two months previous to this time, an exploratory incision was made and a diagnosis given of fibroma of the uterus, with numerous pelvic adhesions. The surgeon did

not think its removal practicable. On August 4th I removed the tumor. The operation was begun at 3:15 P.M. and completed at 7:15 P.M. The tumor, including the uterus, was about the size of a man's head. I found the whole anterior surface of the omentum firmly adherent to the abdominal wall above and the tumor beneath, making it almost impossible to get at the tumor, and certainly quite impossible then to make an ordinary exploratory incision. It required about three-quarters of an hour to get the omentum, whose veins were as large as goose-quills, ligated so that I could free it from the surface of the tumor. After enlarging the incision, I found a little space on the right where there were no adhesions. All over the left side the small intestines were adherent, lying flat on the surface, while above and on both sides the colon, throughout its whole length, lay as if plastered upon the tumor. Large blood-vessels could be seen running from the bowel on to the tumor. If I could have lifted the tumor sufficiently to put an elastic ligature about the uterus, I might have quickly enucleated it, but I could not stir it from its bed. It was a sarcoma that did not easily admit of enucleation, and bled profusely from the slightest wound. The patient was anemic, had already lost some blood, and had been under ether for some time. But I had to go on, for I did not dare to close the incision with the already disintegrated surfaces free in the abdominal cavity. So by ligating dozens of places, cutting between some ligatures and enucleating under others, I finally got the tumor so that I could raise it a very little. Over two hours were thus consumed before I succeeded in freeing it above and tying the ovarian vessels of the left side. I then rapidly enucleated far enough down to apply an elastic ligature, using all of my hemostatic forceps in stopping bleeding points. But the uterus had grown into the broad ligament and was firmly attached to the pelvis, so it could not be enucleated out of its vascular surroundings, but had to be ligatured at and against the pelvic brim on the left. The pedicle, as you see, was about the size of a man's thigh and is traversed on one side by the enlarged uterine cavity. It was treated by Hegar's extra-peritoneal method. The patient died forty-three hours after the operation, of exhaustion. The greater extent and vascularity of the adhesions, as compared with fibroma, were well illustrated here. The absence of menorrhagia in the history of the case corresponds with what is more often noticed in sarcoma.

DR. ETHERIDGE.—Will you tell us how you freed the colon from the tumor, and whether the bladder was implicated?

THE PRESIDENT.—The bladder was not implicated. In freeing the colon, I took stitches through the capsule of the tumor and ligated separately the large vessels on the other side and cut between them. In some places I used hemostatic forceps on the tumor side, in others I enucleated.

DR. J. SUYDAM KNOX read the following report of

THREE PELVIC PRESENTATIONS, WITH DEEP LACERATION OF THE PERINEUM.

The three cases of breech delivery here reported occurred in close sequence in my private practice. Being unusually severe labors, and having certain points in common, they impressed me as being worthy of report. Taken collectively, they suggest discussion as to the management of labors with this presentation.

*Case I.*—Mrs. W., American, æt. 26, primipara, was taken with slight labor pains 4 A.M., May 7th, 1887. At 2 A.M., May 8th, Dr. Colton was called and found the breech presenting, S. L. A. As the os was but partially dilated, and the pains extremely irritating, he administered opium and chloral. Rest, with gradual dilatation of the os was thus obtained for the next twenty-four hours, when I first saw the case. Finding the membranes unruptured, and the os still not sufficiently dilated, the breech not being engaged, I advised non-interference and a continuance of the opium per rectum.

At the end of twenty-four hours I was again sent for. Water had been escaping for hours, the breech rested on the perineum, the patient was exhausted by seventy hours' labor, and the fetal heart could not be heard. The doctor had made long and faithful efforts to assist the delivery, but the body was apparently impacted in the pelvis and would not advance. With great difficulty I succeeded in bringing down a foot, and at length delivered a lifeless twelve-pound boy.

The after-coming head caught in the superior strait and its extraction with forceps caused a laceration of the perineum to the right side of, and beyond, the anal sphincter. The soft parts were so swollen and contused that immediate stitching was deemed inadvisable.

The perineum was partially repaired by granulation during a tedious convalescence of five weeks. Secondary operation will be required.

*Case II.*—Mrs. M., a stout young Bohemian, æt. 22, fell in labor with her first child the morning of May 13th, '87. Dr. Michelet in charge. The first stage of labor was tedious and extremely painful. The membranes ruptured at the end of twenty hours. For three succeeding hours pains were severe and expulsive, when the patient became exhausted and labor ceased. Dr. Nelson was called in and advised stimulants, quinine, and opium. The patient slept several hours, awoke refreshed, and the pains returned with strength and regularity. Thirty-nine hours from the commencement of the labor, Dr. Nelson was again called in and I was requested to meet him. We found the breech resting on the perineum, the body firmly impacted in the pelvis, and the child



dead. Persistent efforts at extraction had been made, leaving the vulva bruised and swollen, and the perineum rigid. The patient having been put under ether at the request of the others, I engaged a blunt hook in the anterior groin of the fetus and gradually succeeded in extracting the body. The forceps were then applied to the after-coming head. Its delivery caused a laceration of the perineum through the sphincter, and about one inch up the recto-vaginal septum. The weight of the child was ten pounds.

Under the most disadvantageous circumstances, Dr. Nelson successfully closed the rent, using three silver sutures in the septum, and four in the perineum.

Antiseptic post-partum treatment was adopted, but the patient had septic fever. On the eighth day feces escaped per vaginam. Examination revealed no union, and the stitches were removed. The patient was four weeks in bed. For two months she was confined to the house. She has but little control of the rectum to-day.

*Case III.*—Mrs. F., a robust American woman, æt. 36, was confined four years ago, in New York, with her first child. After seventy hours of distressing labor, a dead and mutilated child was instrumentally extracted. I could not learn whether craniotomy was practised or not. On the morning of June 24th, '87, I was called to attend her in her second labor. I found the vertex presenting high up L. O. A. The first stage of labor lasted thirty-six hours, when, the os being fully dilated, I ruptured the membranes. Hard expulsive pains succeeded for three hours, when, finding the head did not engage, I attempted the high application of the forceps.

The blades were introduced and locked without difficulty, but each attempt at traction caused them to slip backwards over the crown of the child. Owing to the great obliquity of the head, this always occurred in spite of extreme depression of the handles and downward traction. Anesthesia was then produced, the hand introduced, and podalic version easily accomplished.

The after-coming head became impacted in superior strait, requiring the forceps. Fifteen or twenty minutes passed before it could be disengaged and delivered. By depressing the handles of the forceps between pains, I succeeded in getting some air to the child, and thus finally delivered it alive. Weight of child, twelve pounds.

My best efforts could not save the perineum, which was torn through the anus and one inch up the recto-vaginal septum. After the delivery of the placenta, I repaired the laceration with two deep silver sutures. The upper stitch was inserted on a level with the lower vaginal commissure and passed entirely around the recto-vaginal rent. The second stitch closed the perineum above the sphincter ani. The rectal sphincter not having been

repaired, the condition of the patient was similar to that after operation for anal fistula. The stitches were removed on eighth day, finding the perineum healed. The patient was up and about in two weeks, apparently as well as ever. October 13th, the rectal tear not fully healed, but sphincter under full control. My impression is, that no further operation will be required.

In reviewing these cases, I was impressed with the danger to the fetus in delay of delivery after the membranes have ruptured. Until then, breech presentations should not be interfered with, or the dilatation of the os is slowly accomplished, and the membranes should be kept intact as long as possible. This long first stage, however, is apt to exhaust the patient and make her irritable. We thus get spasmodic rigidity of the os tinæ and perineum.

After the rupture of the membranes, and the protrusion of the breech into the vaginal canal, the rigid perineum is apt to cause the flexible body and folded limbs to pack in the pelvis, and delivery is retarded. If this retardation continues, tonic uterine contractions are induced and the child dies asphyxiated, or uterine inertia comes on and the fetus slowly dies from compression. In the cases reported, the large size of the children, and the easy delivery of the after-coming heads, show that impaction was not due to disproportion between the pelvis and the fetus.

These successive complications I believe are present in some degree in all breech presentations in primiparæ. The novelty of the situation, with its pain and anxious forebodings, tends to make such parturients nervous and irritable. Under ordinary conditions, breech presentations should be severely let alone until the breech has cleared the vulva. The bag of waters can scarcely be left too long unbroken; the folded body best prepares the way for the after-coming head, and, therefore, the extremities should not be brought down. Traction leads to extension of the chin and the passing of the arms above the head, and, therefore, ordinarily are unwise and vicious.

In cases, however, like the first two reported, there must be a departure from ordinary methods, to avoid the ill results that followed.

In a prolonged first stage, the resulting irritability of nerve and muscle can largely be avoided by a free use of opium guarded by belladonna. Rest is thus secured; strength conserved; the os tinæ becomes relaxed, and the perineum distensible.

After the rupture of the membranes, the descent of the breech should be encouraged by pressure upon the fundus uteri during each pain. At the same time, two fingers in the vagina depressing the perineum would prevent impaction, and increase the energy of the uterine contractions. Should impaction threaten, anesthesia should be induced, the feet brought down, and trac-

tions made; always, however, following the descending fetus with compression of the fundus uteri. This outline of treatment is, of course, to be modified by the idiosyncrasies of the patient, or peculiarities of the case.

Each of the three patients reported was deeply lacerated. Each laceration was treated differently.

Case I. was not operated upon. The soft parts were so edematous and bruised as to forbid expectation of union. I believe this to have been an error of judgment. The edema soon subsided, there was no sloughing, and partial repair at least with much comfort would have followed the closing of the wound. The mere apposition of the parts without union is a great advantage to the patient, as illustrated in Case II.

The latter was far less distressed during the first week of her lying-in, though her laceration was much more grave and no union resulted.

In Cases II. and III., both lacerations passed through the sphincter ani, and about an inch up the recto-vaginal septum. In Case II., the whole wound was carefully closed with seven silver sutures. Non-union resulted. Septic fever was, however, present. In Case III., but two sutures were used, one closing the vaginal rent and the other the perineum. The deep anal fissure was left untouched. Good union followed.

I believe these opposite results had their origin in the management of the torn sphincter ani. In such deep lacerations this muscle is a born disunionist, and chafes under the restraint of a stitch. It should be excluded in the closing operation. The end sought is to restore the integrity of the perineum. Even the rent in the recto-vaginal septum, unless extensive, is of less importance.

DR. D. T. NELSON.—Perhaps it would be more appropriate for me to say something later in the discussion, but as I was cognizant of the first part of the history of the case, it may be interesting to give testimony as to the condition of the patient before Dr. Knox saw her and kindly assisted, for I assure you we wanted not only his brains but his muscles. The attending physician and myself had become completely exhausted in attempting to dilate the perineum and cervix and make ready for some one to deliver. I believe I never saw a more rigid perineum; the cervix had dilated fairly well, but slowly and tediously, assisted I believe, by opiates—chloral had been given by the attending physician before I saw her. In theory and practice I have no doubt of the importance of aiding dilatation of the perineum when it does not dilate satisfactorily. This was one of those cases, rarely found, in which it was exceedingly difficult, almost impossible, to dilate. Considerable had been accomplished before Dr. Knox saw the patient, and yet I am sure he would be ready to testify that the perineum was not well dilated, and more, that it was not dilatable. It was ruptured before it was dilated. As to the wedging of the fetus into the pelvis or into the lower strait, it was to me an interesting fact, and I think I

have seen it several times before. It ordinarily means the death of the fetus. Thus wedged in, when dead, the fetus is, so to speak, a ball of putty which can be crowded by the forces above into a mass against the resisting medium, whatever it may be. Pains had been increased by the manipulations in dilating the perineum, and I think that is an important advantage in many cases of difficult labor, that by attempting to dilate the perineum the pains will be strengthened, just as they are ordinarily in a normal condition of things when the head, or whatever the presenting part is, reaches the perineum. You have the advantage of the reflex muscular contraction which makes the pains very much more powerful. But we had become exhausted in attempts at dilatation before Dr. Knox saw the patient, so we got very little advantage in that way. What advantages have we gained by the experience? It seems to me the proper place for improvement in treatment of such a case is during pregnancy or before pregnancy even, and the question is whether or not we could do anything to make the muscular structure better in quality. It seemed to me one of those cases in which there was, to a large extent, absence of the development of muscular structures in the vagina and perineum which ordinarily follows pregnancy. We are all aware that pregnancy makes a great change in the vagina, vulva, uterus and ovaries, and it seemed to me that change had not taken place as it should. There had not been the development of the muscular structures that would facilitate the delivery. She was much in the condition, when I first saw her, of a virgin. She was quite fleshy, and I think it is the experience of all of us that these are the patients whose perineums and other structures rupture; they do not dilate as well, perhaps from absence of muscular tissue, perhaps from the presence of fat. As to the restoration of the perineum, I remember well that we discussed the question whether it would be wise to attempt the immediate operation of the restoration of the perineum and other ruptured parts after delivery; my own thought, and I think it was the unanimous belief of those present, was that the woman would be no worse off if the immediate operation was performed, and probably would run less risk of sepsis, though we all doubted the satisfactory union of the parts. I heartily agree with Dr. Knox that, as a general rule, it is not wise for us to try to close the perineum and be thoughtless about the recto-vaginal septum and the sphincter ani. I should decidedly prefer, if I was to operate after another physician, to have the septum closed, and to have the opportunity of closing the sphincter and perineum. I think the first operation should be the closure of the septum. I think it will be found quite difficult to close the recto-vaginal septum, after the perineum and sphincter have been restored. I fully believe that the danger of sepsis and other serious complications are lessened by the immediate operation, even though the parts are so lacerated that we can hardly expect a satisfactory union, and I would do the primary operation unless the patient was so exhausted by the previous delivery as to forbid it.

DR. CHAS. WARRINGTON EARLE.—Such difficult breech cases as our attention has been called to this evening are not frequent in my practice. Indeed, when I have seen pelvic presentations terminated before I could reach the case, safely to both mother and child, it has sometimes occurred to me that we exaggerated the dangers of these cases, and I have thought that the ordinary

breech case gets along better without some doctors than with them. I think there is no doubt but that the temptation to extract quickly sometimes produces the complications we seek to avoid. The cases presented by Dr. Knox were indeed complicated, and, with his most able advisers, I believe the most judicious treatment was pursued, but I cannot see why episiotomy was not performed. This is an operation which, in my judgment, should not be done frequently or unadvisedly, but it occurs to me that here it would have been justifiable.

Dr. Nelson compares the condition of the child in the cavity of the pelvis to a mass of putty.

With such a condition of things as this—the child dead and the lower parts rigid—why waste time trying to deliver with forceps or anything else; why not perforate at once, reduce the size, and then deliver?

In regard to lacerations, I am an advocate of closing them all. I have never performed the immediate operation on the cervix, but I have witnessed it, and, if performed by a skilful operator, I think it justifiable. Certainly, it is our duty to do the immediate operation if the perineum is ruptured. I once saw Carl Braun's assistant do a craniotomy, in the course of which the cervix, a portion of the vagina, and the perineum were all torn. After the usual antiseptic precautions to the cavity of the uterus, he introduced retractors, and successively closed the rent in the cervix, then in the vagina, and then the perineum, using in all about sixty sutures.

I can easily see how in a small room, and with imperfect facilities, it would be impossible to do such an operation, yet the indications are, to thoroughly and antiseptically and immediately close these lacerations.

DR. D. T. NELSON.—I would like to say a few words in reference to some of the points raised which Dr. Knox did not know. As to the use of hot vaginal douches, the hot sitz-bath was not used: it was practically impossible, on account of the absence of conveniences. A hot-water vaginal douche was directed and repeatedly used during the first stage of labor. A word further with regard to the septic conditions: I believe the woman had septic fever, but I believe that antiseptic precautions were fairly used, not as they might be in a hospital, or as they would be in our best private practice. Vaginal douches of an antiseptic type were repeatedly used during the first stage of labor, and after delivery iodoform was constantly thrown into the vagina and over the vulva. As to closure of the perineum by primary operation, and putting in too many stitches, I have had some experience in that direction, and fully believe that putting in a large number of stitches, and closing the parts perfectly, is a desirable thing to do, and I have repeatedly had it succeed most admirably. I never had as bad a result as this one, and the reason is partly explained by the fact that we were working at a decided disadvantage. We did not think it safe to put the patient on the table, where we could have had an opportunity to perform the operation satisfactorily. More than half the stitches were put in by feeling, and not by the eye, and you can judge that they would not be well put in, and accurate coaptation could not be secured. The expectation was not that there would be complete union, but that there would be less sepsis than otherwise, and I think the woman would have had far less chance of life if the operation had not



en attempted. As to turning and delivering the child by itself, I think any gentleman would have found it a difficult task to turn that babe and deliver it. As to dilating the parts before the instruments are put on, it seems easy, and in every other case of breech presentation I ever saw it was exceedingly easy to deliver the patient, but this was so extremely difficult I was very glad to have Dr. Knox present to assist, as well by his fingers as his valuable head. If I should ever meet another such case, I could be glad to have some gentleman of the Society present, and if he can deliver with his fingers, they will be stronger than any that were present on this occasion; I feel sure there are no fingers in this Society that could have delivered that breech.

THE PRESIDENT.—I would like to take exception to one of the main conclusions of the paper, that it is not well to try to do too much in closing the perineum. In those cases in which I have cut in the most stitches, the union has been the most complete. I recently put in twelve stitches and got complete union, in a laceration extending into, but not through, the sphincter ani. In another extending through the sphincter ani, I obtained complete union by using fifteen stitches. I preserved a piece of the perineal centre, which was hanging out like the end of a finger, by stitching it back with buried juniper catgut. The reasons for failure are that the operation is poorly done, or imperfectly cared for afterwards. If the operator uses carbolized catgut, he will be sure to have occasional failures. I use buried sutures of juniper catgut in the recto-vaginal septum, instead of rectal sutures, and then stitch the vaginal edges, exactly as they belong, with the same material. The lowest external stitch should be taken low down and through the ends of the torn sphincter, as recommended by Emmet. Either this or the next one should pass deep enough into the perineal body and near enough to the rectal mucous membrane to sustain the rectal pressure or traction as far as possible. If these stitches be of silk-worm gut or silver, they will not give way, when properly and aseptically taken. I think the mistake is sometimes made of cutting off too many irregularities, instead of fitting them together. After the parts are united, we should, if the rectum has been lacerated, bind up the bowels for several days, and at first use plain vaginal douches, not carbolized ones, from three to five times in twenty-four hours. Beginning with the third and fourth day, carbolized douches should be employed. If we take all this care, the same success for the secondary operation, we will, unless the parts have been too badly bruised, have the same success.

DR. J. S. KNOX.—In regard to the infection of these patients, Dr. Cotton told me his patient had no septic fever or rise of temperature, and he thought convalescence was delayed on account of the laceration of the parts. Dr. Michelet's patient had septic fever. The stitches were removed on the eighth day, and union was found not to have taken place. In my own case, the woman made a prompt recovery. I kept her in bed two weeks, because I had stitched the perineum; there was no rise of temperature, no signs of sepsis; she had a normal lying-in. I introduced my hand into the uterus and turned the child. I used no intrauterine douche, but used an antiseptic vaginal douche, two or three times a day. In reply to Dr. Earle, the physicians were not trying to save the perineum, as the lacerations were not at all expected. I have repeatedly applied the forceps to the after-coming head in



breech presentations, and always expect to deliver the head without laceration of the perineum. It has been my experience that when a delivery of the after-coming head is attempted instrumentally, it comes suddenly and unexpectedly; you make strong traction, and the head flies upon the perineum and out in the world in a moment, and I think the lacerations of the perineum occurred in this sudden popping-out, so to speak, of the after-coming head. Dr. Byford speaks of keeping the bowels bound up after operations on the perineum. I meet with greatest success in keeping the bowels open; my inflexible rule is, after stitching the perineum, to administer to my patients, from the start, Friedrichshall or Hunyadi water. I like them to have a stool once in twenty-four hours without the use of an enema; I also like my patients to pass urine naturally, and then, as soon as the patient has urinated, to douche out the vagina and the wound. I think it is not judicious to keep the bowels constipated. In regard to Dr. Nelson's criticism of my conclusion about too much being attempted, I spoke only of this one case. I believe that all lacerations should be closed, if possible, and that every care should be taken to perform an immediate and complete operation. When, however, the conditions are such that one cannot make a complete operation, I should much prefer to close the perineum, leaving the sphincter ani muscle unclosed, to even leave the septum not stitched, rather than the perineum, because I believe that the results of a laceration of the perineum, unrepaired at the time, and left for a secondary operation, are quite serious. There seems to be a readjustment of all the organs of the pelvis; the position of the bladder, rectum, and uterus are not the same as before, and the longer the secondary operation is delayed the greater are the displacements. In this operation, I said, too much was attempted, because an appropriate and satisfactory operation could not be done under the circumstances.

All the surroundings were such that all operations were done with a great deal of difficulty; in fact, Dr. Nelson made half his stitches by touch, and not by sight. In my own case, I was alone, with no assistant but an ignorant Irish nurse, and with a hysterical patient. In the case operated upon by Dr. Nelson, I think, if he had used less skill, he would have had a good perineum. Speaking from my personal experience, I think that manual dilatation of the os in labor is injurious; I believe most thoroughly in the septic inoculation of the uterus by attempts to dilate the os in labor, even before the membranes are ruptured. When the os has become rigid, I occasionally introduce two fingers and try to retrain what dilatation has been accomplished by pains; but the dilatation of the os, I think, is a vicious practice in ninety-nine cases out of a hundred, but by dilating the perineum when it is rigid I have saved a rupture, in breech as well as vertex presentations. If impaction of the fetus and laceration is accomplished largely by rigid perineums, I think it is proper for the physician to do this operation, and I know that it does bring on more regular pains.

DR. EARLE asked if these women were subjected to a long hot sitz-bath as a means of assisting dilatation?

DR. KNOX.—They were not. There are many things that have suggested themselves to me in connection with these cases. I believe that if hot vaginal douches, hot sitz-baths, and hot appli-

cations over the abdomen had been used, they would have been more satisfactory.

DR. BAYARD HOLMES read the following paper, entitled:

A PRIMARY MYOMA OF THE BROAD LIGAMENT AND A TABLE OF SEVENTEEN COLLECTED CASES.

I have the pleasure of presenting a specimen of a fibroid tumor resembling those of the uterus, and calling your attention to a small group of neoplasms termed by Saenger "primary desmoid tumors of the broad ligaments."

1. The patient from whom this specimen was removed was a well-developed woman, 35 years old. She had been twice married. By the first marriage she was without issue. About a year after the second marriage, she gave birth to a child that is now three years old. At this confinement there was a laceration of the cervix uteri, which was operated upon in February, 1886. The pelvis was thoroughly examined at that time, while the patient was under the anesthetic, and nothing abnormal detected. Following the operation there was a slight retroversion, which was treated with a pessary for a month or two. Toward the last of May, 1886, this pessary was removed by the patient herself. The menstruation was scanty in June, and she consulted her physician, who concluded from an increased size of the uterus that it was pregnant and refrained from further examination. In July again the menstruation was normal, and an examination at that time first discovered a small tumor, about the size of a black walnut, just behind the uterus. The patient was put in the knee-chest position, and the tumor pushed back almost out of reach. It was movable, and free from the uterus. The tumor had all the appearance of a displaced, enlarged ovary, and it was so considered at the time. Repeated examinations during the following months revealed its rather rapid growth, and its increasing immovability. A dull fluctuation was repeatedly detected. At last, the inconvenience to the patient became so great that she decided for herself that it should be removed.

The patient had never had any pelvic inflammation, and the puerperium was unattended by sepsis.

I had the privilege of making the necessary antiseptic preparations antecedent to the operation. Every scientifically indicated preliminary precaution in the preparation of the room, the instruments, the patient, and the operators was taken. The room was large and airy, having three south windows, and one opening to the west. The house was a frame dwelling which had been in use many years. The floors were carpeted throughout the house. I had the carpet removed from the operating room, which was on the second floor, all the wood-work thoroughly scrubbed, and the walls freshly papered. There was not sufficient time to lay a new floor, and the old one was too much worn to be made clean.

I had it covered with a carpet of thick white duck. After this had been tacked down, all the wood-work and the necessary furniture and this carpet were scrubbed with a 1:1000 sublimate solution. Just before the operation the temperature was raised to 90° F., and a pound of carbolic acid evaporated in the room.

The operation was performed on the morning of the 5th of June, 1887. There were present the operator, Dr. J. W. Streeter, three assistants, and the nurse. Upon opening the abdomen, it was found impossible to bring the tumor in the line of the incision. It lay close to the laterally turned uterus, and occupied all the space in the right side of the pelvis. It was found impossible to move it in any direction more than an inch. Two-thirds of the tumor was visible, covered by smooth peritoneum, which was reflected backward and directly forward upon the walls of the pelvis. No ovary was found on the right side. The left ovary seemed perfectly normal. The tumor felt hard, elastic, and smooth. A transverse incision was made through its peritoneal covering, and the tumor carefully enucleated with dull instruments. There was very little hemorrhage. The broad base from which the tumor was removed was then sewed through with a curved needle and strong silk. This was tied at every stitch. The peritoneal edges were trimmed off, turned in, and fastened with fine silk. The operation lasted two hours. During the following day the patient's temperature rose to 103° F., but it gradually fell to below 100° at the end of the second day. There was no other unfavorable symptom. The sutures were removed from the abdominal wound on the fourth day, and the second and last dressing applied to the abdomen. There was not a particle of suppuration at any time, nor any pain in the line of the abdominal cut, or in the region of the operation. There was just a show of blood on the vaginal tampon where it lay against the os uteri. The patient was somewhat troubled with borborygmus during the first week, and at the end of a month had an attack of gastro-enteritis. She has now regained her former health and strength, and has menstruated regularly and normally.

The tumor which I pass around has all the appearance of a uterine fibroid. It is almost perfectly spherical and smooth. It is about the size of a man's fist. The cut surface is smooth and white, with a few cavernous sinuses, filled originally with a clear serous fluid. A piece of the fibrous capsule is still attached to one side of the tumor. The drawings which I present were made from stained sections, with a one-tenth inch immersion objective, and an inch eye-piece. The nuclei resemble very much those of unstriped muscle-fibres. There is very little, if any, pure fibrous tissue to be found in the body of the tumor. Near the blood-vessels, the nuclei are ovoid or spherical, and very large. These are, no doubt, the round cells noticed by Kleinwächter (29) in small uterine fibroids. They seem to be well-nourished cells, under-

going rapid mitosis, or indirect cell division. These large round cells are easily distinguished from transverse sections of the long nuclei by their size and arrangement.



Camera Lucida drawing of a section of a tumor of the broad ligament. Carmine one-tenth-inch immersion objective. Inch eye-piece. Twelve-inch tube. *m*, round cells of Kleinwächter. They are probably nuclei undergoing active mitosis. *b*, a blood-vessel.

This tumor, then, is leiomyoma, that is, a myoma which originated from a matrix of smooth muscle tissue.

Such a matrix is found in the uterus, in the uterine ligaments, in the base of the ovary, in the walls of the bladder, and in the abdominal wall.

(a) A consideration of the history of the case shows conclusively that this tumor did not originate as a sub-peritoneal fibroid of the uterus. When first observed, it was quite a distance from the uterus, and freely movable from it in the pelvis. The pelvis was thoroughly examined under an anesthetic four months previous to the appearance of the tumor and nothing found.

It does not seem possible that a fibroid of the uterus could be so completely displaced either by puerperal contraction, or by the traumatism it suffered at the operation in February.

There remain to be considered the possibilities of an ovarian or a ligamental origin for our tumor.

(b) We have four methods of demonstrating the presence of

smooth muscle-fibres in the broad ligament, the embryological, the anatomical, the physiological, and the pathological. The uterine ligaments contain plain muscle-fibres, which are prolongations of the superficial embryonal layer of the uterus. These fibres extend through the ring into the mons veneris, and out on the abdominal wall to the *linea alba*, and up over the posterior wall of the bladder.

Anatomically, these smooth muscular fibres have been found and described by Rouget (14), Klebs (16), Henle (17), and Luschka (19). They are also mentioned in Quain's Anatomy.

They have also been assigned an important rôle in initiating labor (18). In examining the wall of cysts of the broad ligament, Spiegelberg (20) and Lawson Tait (21) have seen layers of unstriated muscular fibres three or four millimetres long. Other investigators have sometimes found and sometimes missed these bundles in the walls of parovarian cysts. There is, then, no doubt that a suitable matrix for the development of leiomyomas is found in the broad ligament.

Graetzer (26), investigating the origin of the tumors of the abdominal wall, has opened up all the possibilities of the origin of fibroid neoplasms in every part of the body. According to the theory of Cohnheim, there must be a matrix derived from the mesoblastic layer of the embryo. Thus the fibroids of the skin arise from *musculi erectores pili*; those of the esophagus, stomach, intestinal canal, and prostate, from the plain muscular fibres of these organs, and those of the abdominal wall, from fibres going out from the uterus through the ligaments in the direction of their embryonal attachment.

Twelve well diagnosed connective-tissue tumors of the round ligament have been collected by Saenger (2). These represent almost every possible theoretical position in which such a neoplasm could be found, namely, in the round ligament, in the pelvis, in the canal and outside the canal, in the walls of the abdomen, or in the labia majora.

Small fibroids have been occasionally found in the broad ligament. Virchow (9) has made such an observation. The tumor was as large as a bean, and so far removed from the uterus and from the ovary that no relation of origin to them could be considered. Such tumors have been thought by many investigators to arise from a displaced fragment of the ovary, or an accessory ovary.

If any doubt remained of the possibility of the primary origin of fibroid, or better, of desmoid tumors in the broad ligament, the careful consideration of Cohnheim's post-mortem examination, reported by Freund (28), would remove it. He found on the posterior wall of the uterus and of the bladder, and between the leaves of the broad ligament, even to the outer end of it, numerous isolated myomas of all sizes, from a cherry to an apple.



Saenger (1 and 2) has collected eleven cases of primary desmoid tumors of the broad ligament, which reached a considerable size. There are several observations by other authors which swell the number of observed cases to nineteen or twenty.

Then it is both possible and probable that our tumor arose originally from the broad ligament in which it was found. It is still necessary to show that it did not arise from the ovary.

(c) There are, at least, three reasons for thinking that it did not arise from the ovary, namely, the form of the tumor, the microscopical elements of the tumor, and its manner of attachment, or want of pedicle.

The fibroids of the ovary are simply hypertrophies of the connective tissue of the ovary, and therefore their contour is irregular and nodulated, and not smooth and spherical like ours.

Fibroids of the ovary are composed almost entirely of fibrous tissues, and unstripped muscle-fibre is rarely and sparingly found, while our tumor is composed almost, if not entirely, of plain muscle-fibres.

Fibroids of the ovary have been shown by Leopold (28) to be connected with the ligament by a long, simple pedicle, which does not include the tube. Our tumor lay deep and sessile in the pelvis.

It is not significant that a diagnosis of an ovarian tumor was made before the operation, as this has been repeatedly done by other operators in the case of solid tumors and cysts of the ligaments.

Neither does it matter that the right ovary was not recognized, as it is frequently melted down on the surface of large cysts, and becomes almost unrecognizable through pressure atrophy.

I conclude after all these considerations that this is a true primary leiomyoma of the broad ligament.

A table is appended to this article, giving a synopsis of the eleven cases collected by Saenger (1 and 2), to which I have added six other cases. Three of these are from Freund (28), one is from Bantock, and one is from an unpublished case of Fenger, and the other is the case I have just described.

In only six cases was the true position of the tumor recognized before the operation, namely, Schmid's, Miculicz's, Freund's three cases, and Fenger's.

Cystic, cavernous, and sarcomatous myomas, as well as simple myomas, are represented.

The average age of the patients is about thirty-two years, the extreme being nineteen and forty-two.

The operators were: 1. Schetelig (*Arch. f. Gyn.*, I., 259); 2. Schmid (*Prager Med. Wochenschr.*, 1878); 3. Miculicz (*Wiener Med. Wochenschr.*, 1879); 4. Gayet (*Lyon Médical*, 1874); 5. Saenger (*Arch. of Gyn.*, XII.); 6. Bardenbauer (*Drainiring Perit. Hoehle*, 1881); 7. Péan (*Hegar*); 8. Buschmann (*Wiener Woch.*, 1880); 9. Rydygier (*Deutsche Zeitschr. für Chir.*, XV.); 10. Chi-



miaux (Arch. de Tocol., 1880); 11. Schroeder (Berl. Klin. Wochenschr., 1881); 12. Freund (Gynäkol. Klinik, 1885); 13. Freund (l. c.); 14. Freund (l. c.); 15. Bantock (Brit. Gyn. Jour., Aug., 1887); 16. Fenger (unpublished); Holmes-Streeter (this report). Of these cases seven recovered, eight died, and two were not operated on.

It is probable that these tumors are not as rare as this limited number would indicate, but that in the advanced stage of growth in which they come to operation, the ovary becomes drawn out and lost on the wall of the tumor, which then seems to have arisen from the lost ovary. An earlier examination would perhaps have revealed their true position.

#### LITERATURE ON TUMORS OF THE BROAD LIGAMENT.

1. SAENGER. Ueber primäre desmoid Geschwülste der Ligamenta lata. Arch. f. Gyn., [xvi., 258.
2. SAENGER. Weitere Beiträge zur Lehre von den desmoiden Geschwülsten der Gebärmutterbänder, etc. Arch. f. Gyn., xxi., p. 279.
3. KLOB. Path. Anath. der weiblichen Sexualorgane. 1864.
4. KIEWISCH. Klin. Vortr. u. spec. Path. u. Ther. des weibl. Geschlechtsorg. 1849.
5. SCANZONI. Lehre der Krankh. der weibl. Sexualorgane. 1875.
6. SCHETELIG. Beiträge zur Diagnostik der chronischen Unterleibsgeschwülste. Arch. f. Gyn., Bd. i, 425.
7. SCHROEDER. Lehrbuch der Frauenkrankheiten. 1879 and 1886.
8. STEIN. Inaugural dissertation. Berlin, 1876.
9. VIRCHOW. Geschwülste, Bd. iii., 1, 221, etc.
10. BANDL. Krankheiten der Tuben, der Lig., u. s. w. Handbuch der Frauenkrankheiten von BILLROTH.
11. SCHMID. Prager med. Wochenschr., 1878, 35.
12. MICULICZ. Extirpation soliden Geschwülste des Uterus u. der Ligamenta lata durch die Laparotomie. Wiener med. Wochenschr., 1878, 19, 20, 21.
13. GAYET. Extirpation d'un Kyste du Ligam. large de la Matrice. Lyon Medical, 1874, No. 9, p. 542.
14. ROUGET. Recherches sur le Type des Organes Génitaux et de leurs Appareils Musculaires. Thèse de Paris. 1855, No. 294.
15. HAYES and SAVAGE. Lancet, May 30th, 1874.
16. KLEBS. Handbuch der Path. Anat., iv., 841 and 839.
17. HENLE. Handbuch der Eingeweidelehre des Menschen, 1873.
18. ERBSTEIN. Arch. f. mikroskopische Anat., 2, 1866, 530.
19. LUSCHKA. Anatomie des Menschen, etc. 11, 2, 363.
20. SPIEGELBERG. Arch. f. Gyn., Bd., i.
21. LAWSON TAIT. Diseases of the Ovary. N. Y., 1883, p. 166.
22. SCANZONI. Beiträge, v., 163.
23. WINCKEL. Die Path. der weibl. Sexualorg. Leipzig, 1881.
24. GUSSEROW. Arch. f. Gyn., x., 185.
25. FISCHEL. Ueber Parovarialcysten and parovarielle Kystome. Arch. f. Gyn., 203-210.
26. GRAETZER. Die bindgewebigen Neubildungen der Bauchwand. Inaugural dissertation, Breslau, 1879.
27. GUERIN. Sur la Structure des Ligaments larges. Acad. des Sciences, 1879.

28. FREUND, A. W. Gyn. Klinik, i., 1885, p. 289-293.

Zeitschr. f. Geburtsh. u. Gyn., Bd. ix., p. 68.

29. KLEINWAECHTER. Zur Entwicklung der Myome des Uterus.

30. LEOPOLD. Die soliden Eierstocksgeschw. Arch. f. Gyn., vi., 235.

THE PRESIDENT asked if it was not possible that this tumor could have originated from the Fallopian tube.

DR. HOLMES said he had looked up the literature on the subject and had found only two cases of fibroid originating in the tube. One case was reported by Simpson, and the other by Winckel. Dr. Holmes said that most of the cases cited in his paper, had been reported by Saenger, the last report being in 1884.

---

## TRANSACTIONS OF THE GERMAN GYNECOLOGICAL SOCIETY.

---

SECTION XVIII. OF THE SIXTIETH ANNUAL MEETING  
OF GERMAN NATURALISTS AND PHYSICIANS.

HELD IN WIESBADEN, SEPTEMBER, 1887.

---

(Translated from the *Centralblatt f. Gyn.*, Nos. 41 et seq.)

---

(Concluded from p. 103.)

---

*Wednesday, September 21st, Morning Session.*

DR. KALTENBACH (*Halle*) in the Chair.

### EXHIBITION OF SPECIMENS.

DR. FRANK (Cologne) showed the specimens from an extra-uterine pregnancy associated with sarcomatous degeneration of both ovaries.

DR. COHN (Berlin) exhibited a twin pregnancy in a tube; death from hemorrhage. Also an interstitial pregnancy in the fifth month.

DR. ASCH (Breslau) exhibited some new instruments in use at the Breslau Gynecological Clinic, which have proved sufficiently serviceable to deserve recommendation.

1. Fritsch's legholders as improved by Weinhold; the former were defective in that they afforded no support to the assistant, and thus led him to lean upon the sharply flexed leg of the patient. Above the movable pillows for the thighs an arm is attached, which can be displaced in the horizontal and vertical directions, and extends over the leg of the patient which is suspended from it vertically and slightly outwardly. This arm affords sufficient support to the assistant to enable him to aid even during tedious operations without fatigue.

2. The lock of the Bozeman-Simon speculum as improved by Haertel and Seltmann; this answers all the requirements of antiseptis, and cannot suddenly open by inadvertent pressure. The

handle of this speculum was found too thin and long, thus easily fatiguing the encircling fingers; it was therefore made thicker and shorter, and the hook at the lower end was unbent. For those operations in which the assistant holding the speculum must not be changed, and the hand is to grasp it always from the same side, Dr. Weinhold has devised a handle exactly fitted to the half-closed hand, which is best adapted to guard against fatigue and gives the operator the best guarantee that the speculum will be quietly held in the same position even by an inexperienced hand.

3. Fritsch's polypus forceps, made separable for the introduction of each blade by itself, similar to the obstetrical forceps.

4. A long narrow blunt spoon for the introduction of iodoform powder into the contracted vagina, when distention is to be avoided after colporrhaphies.

5. A cyst forceps by which the opening and grasping of the cyst becomes simultaneous: the abdominal cavity is thus easily protected against the penetration of the contents of the cyst.

6. Instead of Deschamp's instrument, Fritsch employs for the tying of the pedicle a long curved forceps whose blades tend to spring inward, and can be made to open as two wings by pressure at the handle. Dr. Asch has had this forceps constructed in two pieces, which are united by Seltmann's lock and thus can be readily cleaned.

7. An irrigating catheter devised by Weinhold, which unites the most thorough antiseptis with free discharge; it consists of a thick vaginal tube and two pieces which, though having neither opening nor recess, fit firmly together without hinge or screw-thread. The common vaginal tube, which can be easily cleaned by a round brush, fits to three different thicknesses of catheter, whose interior surface can likewise be readily brushed off throughout its entire extent.

8. An adhesive plaster laced dressing for the after-treatment of laparotomy wounds; it lessens tension and can also be allowed to remain during repeated change of the dressing material.

DR. NOEGGERATH (Wiesbaden) read a paper on

#### THE INFLUENCE OF CERVICAL LACERATIONS ON THE ORIGIN OF UTERINE DISEASES.

The paper attacks the, in N.'s opinion, erroneous view that cervical lacerations are the cause of a large number of uterine diseases and complaints referable to them, and the abuse of Emmet's operation in consequence thereof. Fifty cases of uterine disease with cervical laceration are compared with fifty without such injury, the comparison showing that the origin of displacements is not favored by cervical lacerations. Double the number of women affected with uterine diseases without laceration remained sterile after the birth of the first child; the total number of births in those without laceration was 173; in the opposite

group, 185. Total length of uteri with laceration, 361; without laceration, 382 cm. Erosions on intact cervixes, 33; on lacerated cervixes, 27. Normal cervical tissue in 18 women without, in 26 with laceration. Chronic metritis, endometritis hyperplastica fungosa, 28 times without, 20 times with laceration. But simple catarrh without laceration only 7 times; with laceration, 15 times. Ectropium was observed 24 times. Inasmuch as this (in N.'s opinion) likewise arises, not from the laceration, but from the swelling of the vaginal portion, anteversion and slight descensus uteri, and temporarily from Sims' speculum, even this condition presents no indication for the operation. What is to be treated are the complications.

In the discussion, Drs. Saenger, Skutsch, and Ahlfeld held that Noeggerath was going too far in his unfavorable opinion of Emmet's opinion.

DR. HEGAR called to mind that similar discussions regarding the influence or the value of the essential anatomical lesions in comparison with the complications had frequently arisen, for instance, in the case of retroflexion. On the whole, he sided with Noeggerath: many of these operations could certainly be avoided.

Dr. N. explains the favorable result of the operation in the majority of the cases, not by the alteration of form effected by it, but by the change in the consistence of the organ.

DR. W. FREUND (Strassburg) read a paper on

THE PRESENT STATE OF THE QUESTION AS TO THE TREATMENT OF  
THE THIRD STAGE OF LABOR.

He first considered the peculiar differences existing between the advocates of the two contesting methods—the active and the expectant. An understanding between them is rendered difficult by both sides assuming an arbitrary point of time when the placenta is to be removed. In order to settle this question, the author said: "The placenta is detached when the uterus rises up, is hard, when the funis descends, and particularly—a fact pointed out with special emphasis by the author and Prof. Freund, of Strassburg, as an important diagnostic landmark—when the contracted uterine body is palpable as a sort of excrescence to the lower segment containing the placenta which projects spherically above the symphysis. Then the placenta may be removed." To this end the author recommends to fix the fundus gently from without and to push it upward towards the navel. This imitates the physiological process, and every ill-treatment of the uterus is avoided.

DR. SCHRADER (Oppeln) read a paper on

THE CAUSE OF THE RETENTION OF MEMBRANES.

The detachment of the ovum, contrary to the views hitherto current, begins with the commencement of dilatation, for in cases in which the membranes are intact, the lower part of the ovum is

freed some distance up. "With the rupture of the bag at the lowest point, the detachment of the lower pole, and of the ovum generally, ceases; only in the third period the detachment recommences, but does so mainly in the upper part; the placenta, as is well known, descending lower. That is the normal course." The author then explained his views, illustrated by sketches without which it would be difficult to repeat them, how this normal course is disturbed by a rupture extending high up, and therefore recommends a very early artificial perforation; in primiparae, for instance, when the lower uterine segment is already thinned and the os dilated to from three to five centimetres. The child is not harmed thereby, since, on the contrary, when the bag ruptures late, the placenta is detached in part and the placental respiratory surface is diminished.

He also spoke of

#### THE CAUSE OF RETENTION OF THE PLACENTA IN WHOLE OR IN PART.

He proved theoretically that the danger of retention increases with the diminution of the place of insertion or the portion still adherent, which in that case has not force enough to complete the detachment, as in abortion and the discharge of the retro-placental hemorrhage downward. So long as the upper placental margin is still attached, the latter should be most particularly avoided; it is favored by traction on the funis with a view to extraction, or during the passage of the child, or during the tying of the cord, by palpation of the uterus in the third period, premature Credé procedure, etc.

DR. ABEGG (Danzig) sees in Credé's procedure only a re-enforcement of the normal process which moreover affords to the parturient the necessary early repose without, in his opinion, ever leading to mishaps. A. is opposed to Schrader's early rupture of the membranes and abhors the idea of permitting midwives the manual detachment of the placenta.

DR. FEHLING (Basle) felt constrained to confess to Dr. Freund that he was one of those who still allow friction of the uterus after labor; of course, it must be acknowledged that, owing to the attacks by Dohrn, Ahlfeld, and others against Credé's method, the latter had been greatly improved by the later expression of the placenta, usually not until the lapse of half an hour. Students and midwives must still be taught friction of the recent puerperal uterus; the few cases of atony offer but little opportunity for it. Withal, the "excrecence" at the uterus mentioned by Dr. F. seems to call for being removed from the subjective conceptions. Dr. Schrader's assertion that the detachment of the membranes in the period of dilatation may extend up to the placenta, 18 cm. from the os uteri, is merely theoretical; we can conceive of a detachment of the membranes in the first two stages of labor only below the ring of contraction; tearing of the membranes at the lower margin of the placenta is pathological; it is due to the frequent occurrence of placenta marginata or at least to an inward insertion of the membranes. The experiment made by the author, to imitate the detachment of the placenta by

traction on a rubber ball with a string, has no resemblance to the original; the traction by its own weight of the placenta, together with the blood inclosed in the membranes, is of secondary importance. The main cause is the pressure of the contracting uterus. He rejected the early rupture of the membranes recommended by Schrader as very dangerous. To be sure, when the bag ruptures late, membranes are often retained, but not because the bag ruptures late, but because, owing to the greater adherence above, the displacement and thus the rupture of the membranes was retarded.

DR. KUGELMANN (Hanover) said that if the placenta is not delivered in half an hour after the birth, he induces narcosis and detaches it by hand; he would not hesitate to allow experienced midwives to do it.

DR. AHLFELD (Marburg) waits one and a half hours after the expulsion of the child; he resorts to the Credé method only in the case of hemorrhages and if the spontaneous uterine contractions are ineffectual. His results are excellent with the expectant method. As the uterus requires from one and a half to two hours for permanent contraction, the midwife must wait for that length of time and perform light massage in the case of hemorrhage; expression or other manual interference is then necessary only in five per cent.

DR. KORN (Dresden) is in favor of the modified Credé method, that is to say, expression after at least half an hour; until then, friction and watching of the uterus. The rubbing upward of the uterus advocated by Freund may be dispensed with if the puerpera bears down.

DR. AHLFELD spoke against these views; the confusion in the nomenclature of the different methods should not be made still greater. "Friction and watching of the uterus" is not Credé's method.

---

*Afternoon Session.*

DR. ABEGG (*Danzig*) in the Chair.

DR. MICHELSEN (Wiesbaden) exhibited a specimen of extrauterine pregnancy removed by laparotomy. Since then the patient has had a normal delivery.

DR. NOEGGERATH (Wiesbaden) exhibited instruments for the incision of the bladder; for use in the operation for prolapsus of the anterior vaginal wall; for the removal of polyps with broad base; for the opening of pelvic abscesses; for the dislocation of the uterus during rectal examination; duckbill specula for the vagina.

DR. WYDER (Berlin) read a paper entitled:

CRANIOTOMY OR CESAREAN SECTION?

Although the results of the Cesarean section, under the influence of antisepsis and a greatly perfected operative technique, have now become exceedingly favorable (in contracted pelvis 17.5%, according to Credé), the author feels constrained to protest against letting Cesarean section altogether take the place of craniotomy of living children. A comparison with other methods of delivery shows the following: 167 craniotomies from the



obstetric polyclinic at the Charité gave a percentage of 14.5 mortality; but if we exclude some hopeless cases, due to false diagnosis (hydrocephalus), faulty manipulations by outside physicians, and infection from without, there remains a mortality of only 8.4%. In 126 cases the pelvis was contracted. Among the serious consequences of these deliveries were only two vesico-vaginal fistulæ, an exfoliation of the gangrenous vesical mucosa, and one case of gangrene of the vagina.

A collation of 98 cases of induced premature labor (10 from Prof. Gusserow's clinic) shows a mortality of 8.2% for the mothers and 48% for the children.

Moreover, there are other drawbacks not to be overlooked in the proposal to put the Cesarean section in the place of craniotomy of living children, for instance, the fact that the diagnosis of contracted pelvis is often made too late, whereby the prognosis of the Cesarean section is made materially worse. Besides, it must be borne in mind that the prognosis of labor is not alone dependent on the degree of contraction, but also on quite a number of other very important factors which often make it impossible to determine the course of the delivery beforehand. A conscientious physician, in the case of a primipara with a pelvis contracted to the first or second degree, at a time when there is danger for neither mother nor child, could hardly recommend an operation which has still a mortality of 17.5%; on the other hand, a woman who has had several successful deliveries will hardly consent to a Cesarean section in a subsequent difficult labor. Another factor entering into the consideration is the value of the life of the child. In the author's opinion, this comes quite into the background in the choice of an operation which offers the best prospects for the mother. Would that every physician to whom this alternative is presented ask himself: Would you perform Cesarean section if the patient were your wife or sister?

The author finally formulates the following conclusions: 1st. In the case of a pelvis contracted to the third or fourth degree, it is necessary to consider, besides the Cesarean section, the questions of craniotomy and premature labor, and the choice, perhaps, should be left to the patient. 2d. In pelves contracted to the first and second degree, owing to the impossibility of making a prognosis, Cesarean section should be recommended to primiparæ only in case of extreme necessity; and to multiparæ only when former labors were attended with bad results. The earnest desire of the woman to have a living child must also be considered in formulating the indication. If the pregnancy has not advanced far, the induction of premature labor should likewise be proposed to the patient. As long as the Cesarean section still has double the mortality of craniotomy or premature labor, the time has not yet come when the Cesarean section can be made to take the place of craniotomy of living children.

DR. AHLFELD (Giessen) in general sided with Wyder, but although he cited even better results than those of Wyder, cautioned against a too frequent induction of premature labor which can easily be abused. He agreed with Wyder that the practitioners having the care of pregnant women with contracted pelves should rather send them to a clinic, where there are favorable prospects for a Cesarean section, should it be called for.

DR. SÄNGER (Leipsic) and DR. KORN (Dresden) spoke against Wyder's conclusions, the former with general, the latter with statistical proofs.

DR. WIEDOW (Freiburg) read a paper on

THE CONNECTION BETWEEN ALBUMINURIA AND DISEASE OF THE PLACENTA.

Since Fehling has recently agitated this subject, and in confirmation of his views, W. has more closely observed five cases at the Freiburg clinic in regard to the matter, and reported the result. The anatomical changes consist in coagulation necrosis and extend both to the maternal and the fetal placenta.

DR. FEHLING was glad that Wiedow had by his observations confirmed his own conclusions formed at Strassburg. Since then he had observed other similar cases. Besides, he had examined all the gravidæ in the institution for albuminuria. Among about eight hundred cases, albumin was found in the urine eighteen times; in these, the characteristic infarctions were always present. It is true, there were besides, in about one-eighth of all the cases, scattered similar infarctions. The connection of the infarctions in albuminuria with chronic nephritis, not with the ordinary kidney of pregnancy, appeared to him unquestionable. Further investigations should seek to determine whether the infarctions, with and without albuminuria, are identical as regards their etiology. For a number of cases he accepts Scanzoni's view as to their origin from hemorrhages. If the hemorrhage arises near the surface of the uterus, tearing the maternal decidua, there might occur in grave cases premature internal hemorrhage, the connection of which with albuminuria W. has called attention to.

DR. KALTENBACH (Halle).—The connection of serious kidney diseases with affections of the ovum is interesting in many respects. The reader of the paper had mainly considered a white infarction of the placenta. In its slighter grades this affection, like albuminuria, is so frequent that a large number of continuous examinations of placenta and urine appears necessary in order to clear up the constancy and the modus of the connection. He would like to point out that, besides hydramnios and white infarction of the placenta, perhaps myxomatous degeneration of the placenta may be connected with kidney disease. Recently, he had twice observed hydatidiform moles with diseases of the kidney. In one of the cases, albuminuria occurred eight days after the expulsion of the mole. In the other, death ensued by loss of blood and affection of the heart. The autopsy showed an extremely contracted kidney and consecutive mitral insufficiency. Here a twin pregnancy had been present and only one ovum had become myxomatous. It is just these cases which show us how difficult it is to determine which was the primary

condition—the disease of the ovum or that of the kidney. On the other hand, they also prove that diseases of the ovum may have an aggravating effect on the course of a kidney and consecutive heart affection. Finally he desired to point out that grave albuminuria may have serious consequences even without disease of the placenta, for instance, profuse hemorrhages in the third stage of labor.

## REVIEW.

HANDBOOK OF GYNECOLOGICAL OPERATIONS. By ALBAN H. G. DORAN, F.R.C.S., Surgeon to Out-patients Samaritan Free Hospital for Women and Children, London, etc. Philadelphia: P. Blakiston, Son & Co., 1887, pp. 485.

This handbook is devoted essentially to an exposé of surgical gynecology, including those operations of an obstetrical nature which necessitate abdominal section. The book opens with a brief description of the surgical anatomy of the female organs of generation and of the methods of pelvic exploration; these pages being sufficiently complete, although, in connection with the methods of examination, we find here and there points somewhat at variance with what is routine in this country. The instruments and appliances requisite for the performance of the major and the minor operations then receive consideration, the electrical apparatus of use in gynecological surgery being treated of by Dr. Steavenson. Chapter VI. is devoted to the surgical pathology of cystic and allied diseases of the uterine appendages and to the examination of abdominal tumors, the text being elucidated by numerous cuts of specimens. In chapters VII.-IX. ovariectomy is described, this operation being taken as the type of abdominal sections, and the author enters minutely into its various steps, possible complications, and after-treatment. The remaining major operations are more cursorily treated, although not to the neglect of anything important. Of the operations of an obstetrical nature, laparo-elytomy scarcely receives adequate notice in connection with the technique of its performance. The plastic operations, to which the concluding chapters are devoted, are well presented, but in no better manner than can be found in many of the current treatises on gynecology.

This handbook, in short, whilst carefully prepared and accurate, can hardly be said to fill a void. The major operations have been as well and in some respects better presented in the recently published work on abdominal surgery by Greig Smith; in regard to the minor operations there is no lack of excellent descriptions.

G.

## ITEMS.

1. DR. HENRY C. COE has been appointed Obstetric Surgeon to Maternity Hospital, to fill the vacancy caused by the resignation of Dr. Edward L. Partridge.

2. DR. AUVARD, of Paris, for several years a regular contributor of Quarterly Reports on Progress in France to this JOURNAL, has taken charge of the *Archives de Tocologie*, and will no doubt restore that journal to its former excellence.

THE AMERICAN  
JOURNAL OF OBSTETRICS  
AND  
DISEASES OF WOMEN AND CHILDREN.

---

---

VOL. XXI.      MARCH, 1888.      No. 3.

---

---

ORIGINAL COMMUNICATIONS.

NOTES ON UTERINE VERSIONS AND FLEXIONS.

BY

MARY PUTNAM JACOBI, M.D.,

New York.

(With eleven curve tracings.)

Out of thirty-five cases of marked but reducible flexion, chiefly posterior, which I recently examined, three presented no symptoms whatever. The remaining thirty-two were able to wear a pessary which rectified the position of the uterus. But of these, thirteen received no relief whatever from such treatment; fifteen were partially relieved; only four were completely relieved and required no further attention.

In the three cases without symptoms, the uterus was small and light, the flexion probably congenital or dating from early in menstrual life.

It is usually asserted that the morbid symptoms experienced by the great majority of women in whom the uterus is retroflexed are due to an obstruction of the circulation from compression of the veins at the angle of flexion, compression which acts like a ligature strangulating the veins. This is the well-known view of Graily Hewitt, and is thoroughly indorsed by Dr. Thomas in his text-book. Upon this view, the struc-

tural alterations of a flexed uterus result from this venous obstruction. Schroeder, however, points out that the severity of the symptoms bears no proportion to the acuteness of the angle of flexion.<sup>1</sup> Further, the free communication of the uterine veins with the pampiniform plexus all along the borders of the uterus, must annul the effect of compression at any one point. Finally, from the thickness of the uterine wall, there is no compression at the angle of flexion.

These facts have been noted by Hermann and many others; it is surprising that they are not obvious to all. The persistence of subjective symptoms and of evident venous hyperemia in the uterus, even after its complete replacement, would suggest that the flexion counted for nothing in the morbid state, but was an unimportant accident of the metritis which so usually, or of the perimetritis which so often accompanies the flexion.

On the other hand, the marked degree of relief, both subjective and objective, which so often attends replacement of the uterus, certainly indicates that the displacement is itself a cause of venous hyperemia, and of the morbid symptoms accompanying them.

It seems to me that this hyperemia, which cannot be traced to "obstruction," really depends on the slackening of the arterial current which occurs when the uterine arteries have become exaggeratedly curved or distorted from their course. When this current is slackened, the arterial pressure falls, and correlatively the venous tension rises, and blood accumulates in the uterine and perinterine veins, as soon as it is not driven on by a powerful *vis à tergo*. The mechanism somewhat resembles that which develops an infarctus when a terminal artery becomes plugged by an embolus. The current of blood is always slackened in a bent artery. This fact is often illustrated in the organism, when the shock of the blood current is to be avoided. Thus the brain is protected by the remarkable curvature of the internal carotid; the tissues of the embryo by the helicine curves, assumed by the uterine arteries during the first pregnancy not again to be lost. In tissues which are the seat of chronic inflammation and where the circulation is notably slackened, the arteries also become curved.

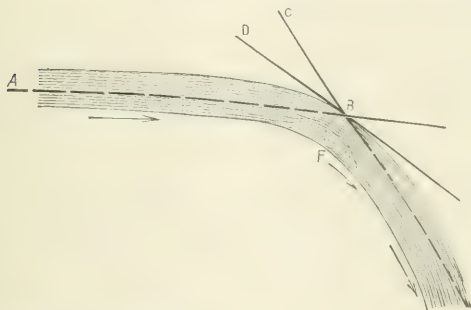
All these cases illustrate a law of hydraulics, applicable to

<sup>1</sup> Volkmann's "Sammlung," No. 37.

organic as well as inorganic tubes, and which is thus enunciated by Rollet.<sup>1</sup>

"If a tube through which a stream is passing become curved, the fluid, which, in obedience to gravity, strives to maintain a horizontal direction, strikes against the part of the wall which is opposed to the direction of the stream, and tends to separate from the opposite wall. Thus is developed a whirlpool, on account of which the stream seems to be diminished. There is a loss of motor force due to this special resistance. Before the point of curvature the pressure rises; at the point, it suddenly falls."

Munk also observes: <sup>2</sup> "If a tube become bent at an angle,



A, B, original direction of the stream.

B, C, direction after bending of tube.

A, B, C, the angle formed by the line of the first direction with the line of the second direction.

F, the whirlpool formed on concave side of bend as the stream strikes against the convex side in changing direction. This whirlpool increases the resistance.

A, B, D, half of the angle  $a, b, c$ , between which and the co-efficient of the resistance is a definite proportion.

Above F the pressure in tube is higher than before the curvature.

Below F pressure suddenly falls.—From Rollet, Herman's "*Handbuch*," Bd. 4, p. 208.

the velocity of the stream of fluid running through it is diminished; the sharper the angle, the greater is the resistance."

One of the most important local conditions which facilitates the circulation is the difference of pressure which normally exists between the arteries and veins.<sup>3</sup> Diminution of arterial

<sup>1</sup> Hermann's "*Handbuch der Physiol.*," 1880, Bd. 4, p. 208.

<sup>2</sup> "*Lehrbuch der Physiol.*," 1881, p. 35.

<sup>3</sup> Rollet, loc. cit., p. 333.



pressure tends to deprive the local circulation of this important condition; the inevitable consequence is stagnation of the blood current, accumulation of blood in capillaries and veins; in other words, capillary and venous hyperemia, which constantly tends to increase. The hyperemia will be greater if, at the moment of version or flexion, the uterine and peri-uterine veins are already distended with blood. Thus the maximum effect is observed in pregnancy, and after that, when the displacement occurs in the course of an endometritis or metritis. When in anemic or cachectic persons the uterus becomes bent from mere flaccidity of tissue or relaxation of supports, a condition rarely effective in the absence of catarrh, there may be no symptoms at all, because the veins are so little distended that the blood stream continues to move through them freely, even when the arterial *vis à tergo* is lessened. Similarly, in congenital flexions, anterior or posterior, the afflux of arterial blood is always below the normal (apart from the cases where the deformity is due to peritonitic adhesions binding down the uterus). The arterial and venous pressure continues the mutual adjustment which had existed before puberty, the menstrual flow is indeed usually scanty, venous hyperemia is absent, and with it all subjective symptoms of uterine lesions for a long time. Finally, however, in such cases, menstrual subinvolution is liable to set in, and recur, and then both the lesions and symptoms of uterine hyperemia will soon develop.

When complete relief follows the use of the pessary, and no further treatment is required, we must infer that the effects of the displacement have been limited to the lowering of arterial tension, and consequent accumulation of blood in the veins, by the mechanism described. The venous hyperemia suffices to produce malnutrition of the utero-ovarian nerve, and, hence, numerous irradiations of sensory disturbance in the sphere of the pelvic nerves or of the cerebro-spinal nerve centres. Yet, so long as menstrual subinvolution is not induced,<sup>1</sup> there is no structural alteration of the mucosa or parenchyma of the uterus, and all symptoms may be rapidly dissipated by rectifying the curve of the uterine arteries, thus restoring the normal arterial *vis à tergo*, flushing the tissues with oxygenated blood, and sweeping out the immense system of veins. Thus the numer-

<sup>1</sup> See AM. JOURN. OF OBSTETRICS, 1885, "Studies in Endometritis," M. P. Jacobi.

ous neuralgias of the uterus and ovary, for which Anstie, probably following Hewitt, finds the most frequent exciting cause in displacements and flexions of the womb<sup>1</sup> are not to be ascribed to a "pinching of nerves at the angle of flexion," but to the perverted nutrition of nerve endings when insufficiently supplied with oxygenated blood. Hence a complete similarity of symptoms between the cases of displacement and of metritis without displacement.

There is no way of telling, from the description given by the patient, which of these morbid conditions will be disclosed by local examination. The proximate cause of the symptoms, venous malnutrition of nerves, is the same in both. But in the relatively rare cases where the displacement has neither begun nor ended in an endometritis with its complications, the pessary will effect a practical cure. In far the larger majority of cases, it will only give partial relief, and will need to be supplemented by other treatment. The reason for the fact just stated lies in the etiological conditions of uterine displacements. These are of three kinds: developmental, irritative, and paretic. The lesion dependent upon an error of development is nearly always ante flexion. The uterus retains the exaggerated curve characteristic of childhood, and the fundus cannot be pushed upward by the full bladder. This is admittedly due to the insufficient development of the lower part of the uterine body, which is probably associated with an abnormal rigidity of the uterine walls from deficient development of the vascular channels. Until menstruation, the position of the uterine body is of no consequence. But from the time that this organ receives a periodical overflow of blood from the periuterine reservoirs, it is important that arterial tension should be proportionately raised, in order to secure the rapid dissipation of venous hyperemia. But if the uterine arteries remain too much curved at their entrance to the uterine body, arterial tension will remain inadequate, and venous hyperemia will gradually develop and become permanent. Hence, finally, the menstrual subinvolution and metritis so often found associated with irreducible congenital ante flexion, and following after some months or years of dysmenorrhea. The menstrual pain has not been caused by obstruction at the angle of flexion, but by the spasm of the imperfectly developed muscular fibre of the uterine wall, irritated by the

<sup>1</sup> Anstie, "Neuralgia."

over-distention of blood channels, inadequately developed for the reception of the menstrual overflow.

An irritative cause of anterior displacements has recently been recognized in posterior parametritis, which determines, it is said, first contraction, finally atrophic retraction of the utero-sacral ligaments. It is easy to demonstrate that retraction of these ligaments will tip the uterine body forward. Conversely, it is a matter of great importance to have learned to suspect a posterior parametritis in any case of anterior displacement which exhibits symptoms. It is also recognized that the parametritis often results in a posterior displacement of the uterus, when the utero-sacral ligaments have atrophied in extension; this can only happen if the fundus uteri has been displaced backwards by conditions coinciding with the posterior parametritis, but acting in an opposite direction to it. Whether, when there is inflammation of the Douglas' folds, the uterus will tip backwards or forwards, ultimately depends upon the condition of the round ligaments. If these are irritated, the fundus uteri is drawn forward, the cervix tilted backwards, and the utero-sacral ligaments tend to shorten, precisely as do the ligaments around joints in the malpositions of chronic arthritis. If the round ligaments are relaxed, the fundus uteri can scarcely fail to be repulsed abnormally by the full bladder, and come into the conditions productive of simple retroversion or flexion; and the utero-sacral ligaments, though irritated by the peritoneal inflammation, must be extended, and atrophy, if at all, in extension.

The coincidence of anteversion or flexion with parametritis posterior implies, therefore, either an absence of all conditions relaxing the round ligaments, or the presence of conditions irritating them. The coincidence of retroflexion or retroversion implies primary relaxation of the round ligaments, and secondary extension of the utero-sacral. Anterior displacements resemble the forced adduction of the thigh, which takes place from the reflex irritation of a coxitis. Posterior displacements resemble the hyper-extension of the foot caused by paralysis of the anterior tibial and extensor communis muscles. The tension or relaxation of the round ligaments depends ultimately upon the condition of the endometrium. The most prominent cause of relaxation is known to be subinvolution after parturition or abortion. The growth, and also the failure of new tissue to

regress in growth, are then evidently correlated with the processes sustained in the endometrium.

When there has not been subinvolution after parturition, the relaxation of muscular fibre is traceable to menstrual subinvolution. This begins on the endometrium in a persistence of venous tissue that should shrivel up in the post-menstrual period, but fails to do so. The venous hyperemia gradually extends to the parenchyma of the uterus. This uterine parenchyma is a central condensation of the cellulo-muscular atmosphere in the midst of which the uterus is immersed; the ligaments represent peripheric condensations of the same atmosphere continuous with the central mass. The uterus is not suspended by cords which start from the bony pelvis to reach its sides; but its own substance expands, until it reaches on all sides fixed points of attachment. Therefore, the ligaments share in all the nutritive processes of the uterus, grow with it in pregnancy, and with it submit to the puerperal subinvolution. Similarly do they share in the venous hyperemia, with consequent loss of tone and relaxation of muscular fibre, which becomes established after a succession of menstrual subinvolutions. Thus retroversion implies fundal endometritis; retroflexion, such generalized uterine catarrh as shall have not only relaxed the central and peripheric muscular fibre of the uterine system, but also softened the uterine stem. Conversely, though less obviously, a high degree of irritation of the fundal endometrium, unattended by glandular proliferation and catarrh, is extended through the reflex arc of the uterus, and determines contraction of the muscular fibre in the motor part of it. Hence the violent spasm of the muscular fibre at menstruation; one form of tetaniform dysmenorrhea. Extension of the spasm from the central muscle to its peripheric expansion in the ligaments causes the uterine body to be drawn forward and downward by the round ligaments, and, simultaneously, the cervix to be drawn upwards and backwards. As soon as the displacement has passed the line at which it may be readily rectified by the full bladder, it tends to become permanent. Hence we must speak of anterior displacements from an irritation internal to the uterus, in addition to those dependent on the periuterine irritations of posterior parametritis.

The negative influence of bladder pressure in anterior displacements is balanced by its positive influence in posterior

lesions, of which indeed it is the immediate efficient cause, the relaxation of the ligaments being the permitting or predisposing cause. When the fundus uteri has fallen back of its normal position in the axis of the superior strait, its respiratory movements, or the movements during respiration, become perverted. Normally, the fundus uteri points towards the centre of the abdominal walls at the umbilicus. Its inspiratory movement therefore results from forces acting in two directions; the descent of the diaphragm tends to depress it downwards: but at the same moment the protrusion of the abdominal walls tends to draw it upwards and forwards. On this account, the inspiratory excursion of the uterus does not coincide exactly with that of the thorax, but is longer. If a lever be placed on the cervix uteri, and allowed to write on a cylinder simultaneously with a second lever connected with a pneumograph, the duration of the uterine curve will be found to be about two and a half times as long as that of the thoracic curve. When the uterus is retroverted, its curve is shortened as well as markedly diminished in amplitude. The uterus is no longer drawn upward and forward by the suction force of the abdominal walls, but remains exposed exclusively to the influence of the diaphragm. The downward pressure of inspiration comes in full and excessive force upon the anterior surface of the uterus, which thus, at every inspiration, tends to become more impacted in the pelvis. The aspirating force of the upward movement of the diaphragm in expiration, is diminished for the uterus when its fundus no longer floats freely in the cavity of the pelvis. The loss is increased proportionately to the degree of impaction. With the diminished mobility of the uterus, its circulation loses a powerful impetus, even though the aspiration on the general pelvic circulation remain the same. Hence, a second cause to be added to the loss of arterial tension for the venous hyperemia of the uterus in posterior displacements. The accompanying tracings, obtained by the method described, exhibit the diminution in amplitude of the uterine curve, when the uterine fundus has fallen backward of the axis of the pelvis.<sup>1</sup>

<sup>1</sup> I am indebted for valuable assistance in taking these tracings to Miss Wakefield, student in medicine, who will record many of their results in her inaugural thesis.

Figs. 1 and 2 are tracings taken from a uterus normal in position, with a lacerated cervix, but little consequent lesion. In Fig. 1, the upper tracing is the respiratory curve taken from the sternum. In Fig. 2, the respiratory curve is taken at the navel, and is much more ample. The amplitude of the uterine

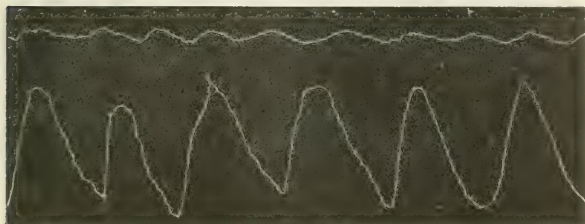


FIG. 1.

curves is very marked —may be called typical for a normally moving uterus. Each occupies the time of about two and one-half respiratory curves taken simultaneously.

In Fig. 3, the uterine curve is lower, but much more pro-

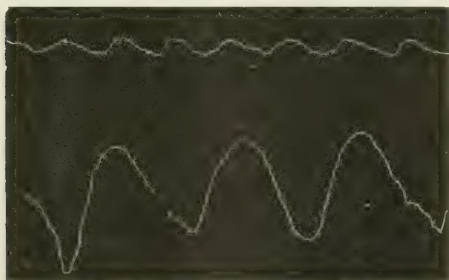


FIG. 2.—Uterus in normal position; lever in cervical canal.

longed, occupying the time of five respirations. These are somewhat accelerated, probably from emotion.

Fig. 4 is taken from a case of ante flexion. The uterine curve is diminished in height, and somewhat in duration, corresponding to one and one-half or, at most, two thoracic curves. The latter are very well developed.



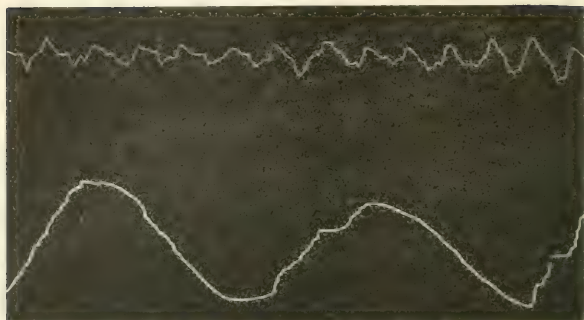


FIG. 3.—Uterus in normal position: lever in cervical canal.

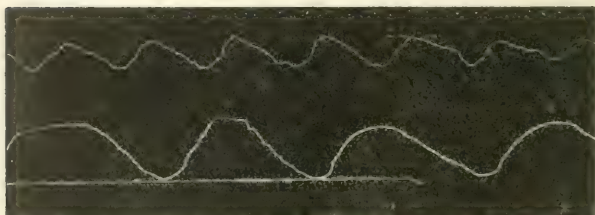


FIG. 4.—Anteflexion: lever in cervical canal.

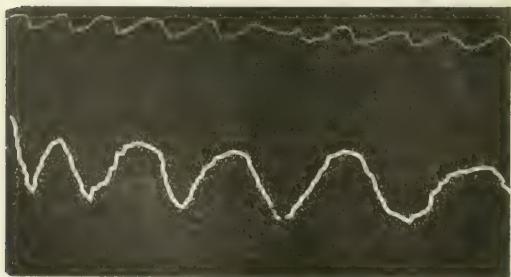


FIG. 5.—Retroversion: uterine lever on anterior lip of cervix.

The chronograph markings at the lower part of the tracing indicate seconds. Thus each uterine curve occupies eight seconds, each thoracic curve four and one-half. At the average breathing of seventeen respirations to a minute, each thoracic

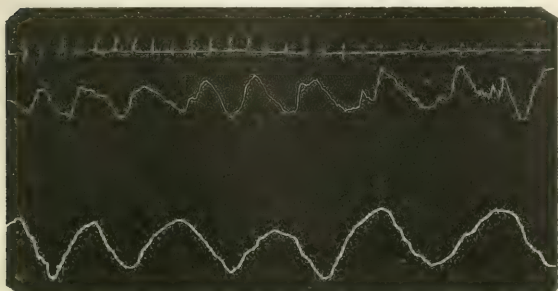


FIG. 6.—Retroversion; lever on cervix.

curve should last three and nine-seventeenths of a second. In the above tracing, there were thirteen respirations to a minute.

In Fig. 5, a tracing is taken from a retroverted uterus, the lever being placed on the anterior lip of the cervix. The

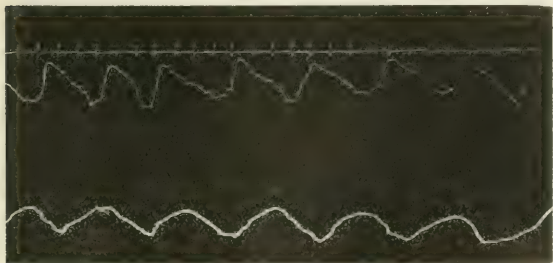


FIG. 7.—Retroversion; lever on fundus.

height of the uterine curve is markedly diminished, its duration, in this case, somewhat lessened.

Figs. 6 and 7 are both from the same case of retroversion. In the first, the curve is obtained by placing the lever on the

cervix; in the second, by placing it against the retroverted fundus uteri, as felt through the vaginal wall.

In Fig. 8, the uterine curves are tolerably well developed, though still lower than the typical curves of the normal uterus. The lever rested on the anterior lip.

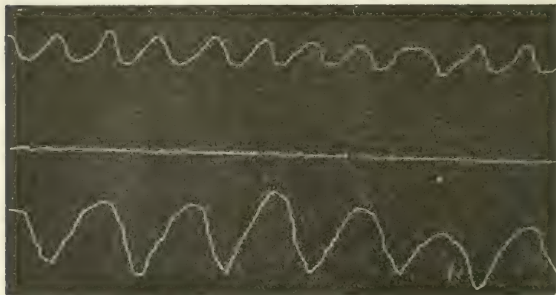


FIG. 8.—Uterus in partial prolapse and retroversion.

Fig. 9 illustrates the fact that the respiratory excursions of the uterus may be diminished without displacement; conversely, although the displacement always tends to diminish the amplitude of the curve, the examples show that this may still be

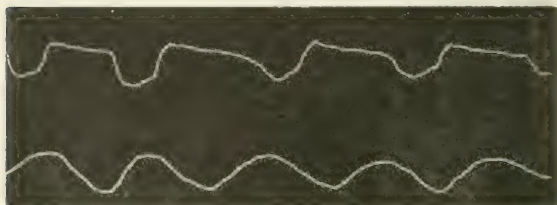


FIG. 9.—Fungous endometritis without displacement, but great debility; lever attached to catheter passed through uterine canal to fundus.

considerable. In Fig. 9 alone the lever, through the medium of a catheter, was passed to the fundus. It is not quite clear whether this circumstance has diminished the amplitude of the curve.

Figs. 10 and 11 show the diminution of the uterine curve

during pregnancy, the diminution being proportioned to the increase in the bulk of the uterus.

If a uterus with its appendages and the bladder and vagina be removed intact from the cadaver, and attached by the peri-

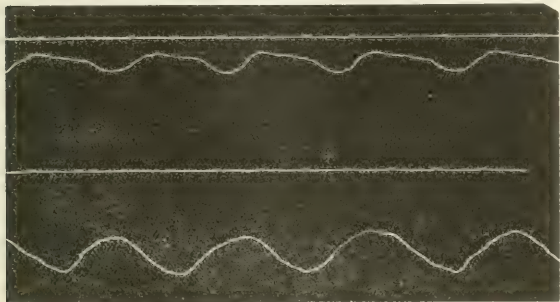


FIG. 10.—Pregnancy at six months; lever on anterior lip.

toneal folds to a prepared bony pelvis, it is possible to imitate the effect of the intra-abdominal pressure of the closed abdomen by immersing the entire pelvis in a vessel of water. The

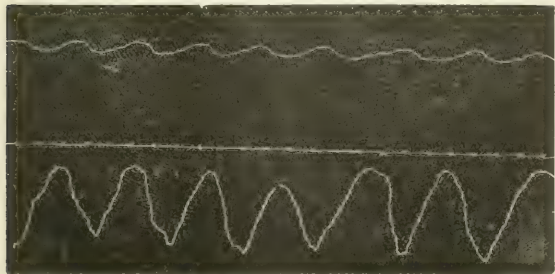


FIG. 11.—Pregnancy at three months.

water, penetrating everywhere freely, floats up the uterus, tubes, and ovaries as they are normally floated upward by the vital turgescence of the tissues of the broad ligaments and beneath the pelvic peritoneum.

The equable pressure of the water above imitates the equa-

ble intra-abdominal pressure of normal conditions. If the pelvis, with its contents, be now removed from the vessel of water and stood upon a flat surface, the uterus sinks, the tubes fall from a horizontal to an oblique position, approaching the vertical, the ovaries slip down from the brim of the pelvis and approach the cul-de-sac of Douglas. The position thus assumed by the intra-pelvic organs is that observed in the cadaver when the abdomen is laid open. The intra-pelvic organs retreat, collapse, as the lungs retreat when the chest is opened.

On this account, the sinking of the same organs during life, and while the abdomen is still closed, may appropriately be called "the assumption of the cadaveric position." It has been frequently recognized that this displacement implied a loss of the vital turgescence of periuterine tissues, by means of which the uterus, with its appendages, is normally buoyed up to the brim of the pelvis; also that retroflexion of the uterus is preceded by some degree of prolapsus. The ready gradation of the one lesion into the other is readily seen on the described specimen. As the tubes descend, their fimbriated extremities turn back towards the cul-de-sac of Douglas, and remain below the pelvic brim. It is easy to see how, under these circumstances, the secretions from the tubes or even, at the menstrual epoch, blood, may fall into the cul-de-sac, and cause a localized peritonitis. Again: the lymphatic vessels of the uterus emerge from its horns, and pass backwards through the cul-de-sac, following the utero-sacral ligaments to join the retrouterine glands surrounding the internal iliac arteries. It is evident that irritation of these vessels, if they are engaged in carrying noxious material from the cavity of the uterus, may easily extend to the post-uterine peritoneum, and there excite a localized peritonitis.

Thus this frequent lesion is readily traceable by two paths to the uterine endometrium. We are not obliged to infer the illogical process of an extension *to* a primary tissue—the endometrium—of an inflammation of a serous membrane, which, apart from blood poisonings, only inflames secondarily the organs it covers. It is not even plausible to suppose that the uterus or its lining cavity inflames as a consequence of a parauterine "cellulitis" or peritonitis. These inflammations are as secondary, chronologically and etiologically, to metritis as is an alveolar periostitis to inflammation of a tooth cavity.

A CASE OF CONGENITAL ABSENCE OF THE VAGINA WITH  
RETENTION OF MENSTRUAL FLUID.

BY

J. S. McMURRAY, M.D.,

and A. S. McMURRAY, M.D.,

Frankfort, Ind.

Miss J. S——, aged 16, came under our professional observation August 2d, 1887, with the following history as given by her mother: She is a twin, her mate having died in infancy. She had a mild attack of scarlatina at six years of age, but no sequelæ were recognized. She was of a cheerful disposition, healthy and vigorous, in mind and body, until about sixteen months prior to the above date, when she experienced the symptoms common to the advent of the menstrual function. But as there was no "show," the attempt was considered abortive. A few weeks subsequently the same symptoms supervened, somewhat aggravated. From this time on, these attacks recurred every four weeks with all the regularity of the well-established menstrual function; each time becoming more painful and lasting a longer time, until about six months before we saw her, when they became continuous and she had lost her health and vigor. During this time, the breasts were well developed, together with all the evidences of maturing womanhood. She was constantly under professional surveillance; her attendants gave her morphine and other anodynes for temporary relief and emmenagogues without limit, but availed nothing. Presuming hers to be a case of delayed menstruation, no examination of the genitals was made until this time, when a prominent practitioner of this city, having taken charge of the case, made a digital examination at the request of the parents. He declared that she was "all right," and needed "only a little medicine to bring her around."

At this time, she was taking from *three to five* grains of morphine *per diem*, without obtaining even an hour's respite from pain. As the case grew worse and worse, she was taken to a homeopath who found "something wrong;" and wanted to take her to a hospital. This was refused, and she came under our care. She was exceedingly emaciated and anemic, and her weight was about seventy-five pounds. Her face had the peculiar pinched look characteristic of long suffering and the morphine habit.

We etherized and examined her. The hypogastric region was prominent. A well-defined globular mass, very similar to the pregnant uterus of five or six months, was easily outlined. The



pubes were well covered with hair, and the labia majora well developed, though upon being separated they revealed no introitus vaginae, but only a shallow *cul-de-sac*, skirted with *carunculæ myriformes*. The perineum was distended; the anus pushed forward "pouting," as in the second stage of labor. On introducing the finger into the rectum, a tumor was discovered pressing the perineum, and feeling to the touch like the edematous scalp of a child's head approaching the vulva. It was thought the uterus could be detected through the abdominal parietes, closely hugging the tumor above. This, however, was a deception as subsequent developments plainly showed. The ovaries were not discovered. The bladder was pushed upward and forward, and it was with difficulty that a catheter could be introduced.

Now, bearing in mind the history, linked with the facts present, pregnancy, ovarian dropsy, "phantom," hematocele, and fibroids were easily excluded, leaving a typical case of congenital absence of the vagina, with retained menstrual fluid. She was put on tonic and aseptic treatment for several days, and on August 8th was etherized, placed upon a table, and, assisted by Drs. S. O. Burris, W. P. Youkey, and J. H. Baker, an operation to establish a vaginal canal was performed. The patient was placed in the lithotomy position, and the bladder being emptied through a catheter, a strong steel staff was passed through the urethra and held in position, steadying the vesicorectal septum, and subsequently serving for a guide to protect that organ and the bladder. The bottom of the interlabial *cul-de-sac* was raised with a tenaculum, and an elliptical section snipped away with scissors, parallel with the lips, one inch in length by half that width. Now, with two fingers of the right hand in the rectum, an exploratory trocar and canula was carefully passed in the direction of the normal vaginal line. When at a depth of two inches, resistance ceased, and the trocar was withdrawn, followed by a small issue of menstrual fluid, confirming the diagnosis. A long probe was passed through the canula which was then withdrawn, leaving the probe in its track, it serving as a guide to direct the advance of the forefinger of the left hand, with which the vaginal track was opened. Through this, there issued a flood of forty-eight ounces of dark, ropy fluid resembling treacle, so tenacious that it could be drawn out in threads a yard long. When the contents were well evacuated, the finger was again introduced, and the opening extended transversely both right and left until it was enlarged to the normal vaginal capacity. On examining the cavity, its walls were as firm as cartilage. Search was made for the uterus, but it was not recognized. The cavity was then thoroughly washed out with a hot solution of bichloride of mercury. A glass plug, as recommended by Sims, one inch in diameter, and three inches long, was then put into the canal. But it would not go as far as necessary, and on searching for the obstruction a stricture of the cavity was manifest, sufficiently close to prevent the introduction

of the plug to its full depth. On closer examination, however, this proved to be the *cervix uteri resuming its natural form*, thus showing the uterus and a small portion of the vagina to have been one continuous cavity. The plug was retained in place by a T-bandage. She was put to bed, and soon rallied from the anesthetic. She at once began to complain of severe pains in the pelvis, which were true "after-pains," such as follow labor. She was given a full anodyne, but these pains persisted and did not disappear for nearly a week. Twice a day for two weeks the plug was removed, and the cavity thoroughly washed out with the bichloride solution; then once a day for three weeks.

In a few days she began to build up. At no time did the temperature exceed  $101^{\circ}\text{F.}$ ; this was on the fourth day, but subsided on the fifth, and never was there more than a trace of suppuration. The glass dilator was worn at least twelve of each twenty-four hours, for three weeks after suspending personal surveillance of the case.

After about the tenth day all opiates were suspended; in fact no demands were present for their use, notwithstanding the liberal administration of morphine daily for over twelve months previous. A troublesome diarrhea followed, attributable to the withdrawal of the drug, but as digestion improved and the system regained the function of assimilation, no further difficulty of this kind was experienced. Five weeks from the day of the operation, she walked into our office, having come ten miles by rail the same morning. She still wears the plug at night, and will do so for a long time. The canal is as nearly natural as scar tissue, forming over a glass plug, can be so, soon after the operation.

Notwithstanding the gravity of such cases, they are sufficiently common to invest them with a full share of interesting and important features equally with other grave conditions regarded as amenable to surgical interference. Prominent among these is an early diagnosis, thus quieting all questions as to the means of relief, ripening uncertainties into facts, dissipating presumptions that torture the patient with nostrums, and avoiding the disrepute into which false modesty is sure to drag the profession.

Again, are these cases congenital? So far as the literature and didactics relative to this question as presented to the profession touch this question, they are. Yet two classes of cases, one where the menstrual function *is*, and another where it is *not* established, are recognized. In the former, the uterus and its adnexa, together with all indications of maturing womanhood are present. In the latter, these organs retain their rudimentary condition; which fact suggests the inquiry: Is not

this in obedience to the law of natural conservatism in preserving the "eternal fitness of things?" leaving the probability prominent that the former is accidental or traumatic, and the latter congenital. The further fact that, when art has corrected the defect in the latter class, maturity of function nearly always ensues, strengthens the position. An additional fortification is, that it is quite common for children to suffer from attacks of exanthematous fevers, and all authority and experience are in accord with the teaching that the mucous surfaces are not only very liable to, but are strongly predisposed to hyperemic and inflammatory conditions, even to sloughing and gangrene, while the system is burdened with such influences, affording a reasonable as well as a tangible solution of the etiology of obliteration of the vagina prior to puberty. Assuming this position to be tenable, practically we have the question of differentiation to consider in each case of atresia vaginalis, the diagnosis determining the feasibility of interference and re-establishing the vaginal canal, or, so far as the reproductive function is concerned, of relegating the patient to the rôle of "innocuous desuetude."

---

#### PREGNANCY COMPLICATED BY UTERINE TUMORS.

---

BY

H. T. HANKS, M.D.,

Prof. Diseases of Women N. Y. Post-Graduate School and Hospital.

---

TUMORS of the uterus complicating pregnancy are comparatively frequent, and but few of us with even a moderate obstetric experience have failed to see one or more such unwelcome cases. I have been led to consider this subject, because I have seen no less than twelve instances where pregnancy has been made far more distressing, and labor far more dangerous, than normal, because of uterine tumors.

The great variety in the character and in the size, shape, density, and location of these tumors renders it exceedingly necessary for us to study more than one or two cases of uterine fibroids or cancer, if we would form and establish correct opinions to govern our course of treatment. I believe we

are justified in drawing certain conclusions, and formulating certain rules which will aid greatly the physician who may be called upon to attend a woman who, during pregnancy, has either a benign or a malignant uterine tumor to complicate a condition which, in its most simple and normal state, is never totally devoid of danger.

#### *Edematous Tumor.*

It will be my purpose to call your attention first to those tumors of a benign and transient nature which are seldom discovered, and probably are seldom present until labor begins. They may properly be called *inter-partum* tumors. Their etiology can readily be made out as soon as they are diagnosticated. They are the result of the pressure which is occasioned by the contraction of the muscular fibres in the fundus and body of the uterus, while the lower part of the fetus, generally the head encircled by the cervix, is impacted in the cavity of the pelvis. The return venous circulation in the lip of the cervix is impeded; edema results, and this unusual tumor is quickly formed. Fortunately for making our diagnosis, and for differentiating this transient tumor from a permanent myoma or fibroma, we have decided variation in its density at every contraction and relaxation of the uterus. Then, besides, its very existence necessitates the sensation of heat and dryness to the touch, which comes from partial strangulation. It will be necessary to remember this fact, viz., that a fibroma at term will be quite dense all through the interval between the pains, while a tumefaction of the cervix is soft during the interval and very much more dense during contraction. The enlarged lip is not uneven, but gradually merges into the cervix. Not so with a fibroid, or cancer. Then, too, the edematous tumor has only been present a short time, and, of course, has provoked no *ante-partum* symptoms. Many a fibroma manifests its presence by causing pain and hemorrhage previous to the beginning of labor.

The prognosis is good.

#### *Treatment of an Edematous Tumor.*

The treatment is simple and safe, and consists in placing the patient in the knee-chest position for a half-hour, when the tumor, as a rule, will diminish very much in size.

If only slight relief results from the posture treatment, the swollen lip should be punctured with a scalpel or bistoury, and the engorged blood-vessels directly relieved. The hot water douche and the hip bath are also helpful. Often a little assistance with one or two fingers in the vagina will enable us to change the position of the head in the pelvis, or to push the lips over the head and above the pubes during a pain.

To illustrate :

Levers' case (Guy's Hospital Report, Vol. VII., p. 95): anterior lip very much elongated and swollen; labor retarded; punctured; immediate relief.

Levers' case (l. cit.), large tumor causing dystocia; anterior lip of tumor completely disappeared by steadily pressing upon it with fingers for half an hour.

Duclos mentions a case which came under his observation where the tumor, four by two inches, was developed from the posterior lip in two hours. He pushed the tumor upward and to one side, and thus made room for the head. The tumor disappeared spontaneously in three or four weeks. He also states that he saw two other very similar cases.

Nagle saw and successfully treated in a similar way a very similar case.

I myself have seen two cases, in private practice, where the posterior lip became enormously distended and tumefied. One case required to be punctured; in the other, I was able to push the tumor upwards. Both patients did well.

Robert Barnes describes a case of extreme elongation and tumefaction of the cervix uteri (L. Obst. Trans., Vol. XVIII., p. 293). Cervix protruding from vulva, vagina inverted; labor easy and quick (child of  $7\frac{1}{2}$  months); placenta followed quickly. Patient much exhausted, much pain, died on the sixth day. (Undoubtedly this case had other complications.)

### *Fibroid Tumors.*

The subject of fibroid tumors complicating pregnancy has been studied very carefully by Levers (Guy's Hospital Report, 1842). At that time, however, he was not prepared to adopt measures of treatment which, to-day, are believed to be *par excellence* the best that can be followed. I would refer the reader to this very excellent paper and to our late President's

(Mundé) essay on "Enucleation *versus* Cesarean Section in Cervical Fibroids," etc. (Trans. A. G. Society, 1884); also to the "Encyclopedia of Gynecology and Obst.," Vol. IX., edited by Dr. Grandin. This is undoubtedly the most elaborate paper upon the subject in our language.

I would also refer to cases in the practice of and reported by Madame La Chapelle.

Cazeaux and Tarnier, Am. ed., p. 706. Ramsbotham, l. c., p. 706. M. Danyau, l. c., p. 706. Scanzoni, pp. 237, 238. Fry's case, London Lancet for March 8th, 1884. Guy's Hospital Report, Vol. VII., p. 102. Lusk's "Obstetrics," p. 539. Meigs, Bedford, Dewees. Lee's cases, Am. Journ. Obst., Vol. XV., Suppl., p. 175; l. cit., Vol. XIX., p. 606. Kelley's case, l. cit., Vol. XIX., p. 49. Hunter's case, l. cit., Vol. XIV., p. 892. Hanks' case, l. cit., Vol. XV., p. 174. Mundé's case, l. cit., Vol. XV., Suppl., p. 175. Warren's case, l. cit., Vol. XVI., p. 1124. Dr. Foster's case, l. cit. Lusk's case, l. cit., Vol. IX., p. 94; Vol. XVII. Van de Warker, Reamy and Baker, Trans. Am. Gyn. Soc., 1884.

The following cases from my own practice will perhaps be of interest:

CASE I.—Mrs. F., primipara, 36 years. Two fibroids in body of uterus; one subperitoneal, to right of fundus, size of small orange; one in posterior wall, probably interstitial. When first seen by me, she was three months pregnant, and the uterus was completely retroverted and impacted, the tumors being pressed tightly against the hollow of the sacrum. Fever and great anxiety. (Case reported in AM. JOURNAL OF OBST., Vol. XV., p. 74.) Dr. H. F. Walker called in consultation. Patient placed in knee-chest position. Uterus was pressed into normal position, and the patient at once made comfortable. Tumors soon felt above pubes, and grew as rapidly as the fetus. Later, at seven months, she had an attack of localized peritonitis around the upper tumor, which was full four by three inches. Great distress resulted, and almost a miscarriage followed. Cervix dilated during the attack to the size of a half-dollar, and head presented at os. Pains controlled only by immense doses of morphine hypodermically. Delivery at full term. Tumors did not grow after seventh month. Normal labor. Mother and child did well.

CASE II.—Mrs. A., 40 years, strong and rugged, multipara (case never before reported). Labor completed with forceps, child alive. A flattened interstitial fibroid tumor, three by four inches, discovered in posterior wall of body only after delivery of the placenta. Considerable hemorrhage. Ergot required. Patient died of puerperal metritis on the fourth day. Result believed to be due to presence of tumor.



CASE III.—Mrs. G., aged 26 years; second child. Had been in bed with great distress and pain for two weeks before I was called, vomiting all food. I found her three months pregnant, with a subperitoneal fibroid, two by three inches, lying in the hollow of the sacrum, and attached to the posterior wall of the completely retroverted uterus. The cure of this distressing condition was easily effected by placing the patient in the knee-chest position, and gently, but firmly, pressing the tumor and uterus into position. Patient did well. Two years and four years later, precisely the same conditions recurred, and the same treatment on each occasion resulted in relief of the bad symptoms.

This patient has been under observation for twelve years. The tumor always increases in size for two or three months, and then remains quiescent, occasioning almost no trouble at time of delivery. It has been, however, the probable cause of a retroversion of the pregnant uterus on three separate occasions.

CASE IV.—Mrs. — (also reported in the AM. JOURNAL OF OBSTET. as a case of Cesarean section). Fibroid, size three by three by four inches, blocking up canal, so that only two fingers could be passed in. Dr. Thomas called in consultation. Cesarean section performed after death of child. Mother died two days later of peritonitis.

A tumor similarly located, and of about the same size, was safely enucleated by me a few years later. Thomas states that he now would enucleate all cervical fibroids of this character in this locality when they would prevent delivery of the child.

CASE V.—(See AM. JOURNAL OF OBSTET., Vol. XVI., p. 75.) This was a woman in labor with first child. Efforts had been made by Drs. Billings and Billington to deliver the head, but without avail. I was called; found a fibroid tumor in the posterior wall of cervix, half filling the pelvis; ether given; tumor pushed above the brim; forceps applied at once; live child delivered; mother did well. Subsequently, when again pregnant, I found the tumor quite as large. Consultation with Dr. Thomas, and, later, with Dr. Lee. Tumor easily felt, three by three inches. It was decided to allow pregnancy to go on, and deliver as before. Two or three months later, when delivered at full term by Dr. Partridge, no tumor could be found, although search was carefully made for it.

CASE VI.—Miss —, a dry-goods saleswoman, brought to me by Dr. Sarah J. McNutt, had not menstruated for three months. On examination, the uterus was found to be enlarged in a very irregular manner. Several fibroid tumors, one subperitoneal, projecting from the right side of fundus and body, and one interstitial, in the anterior body of the cervix, so large as to prevent a six month's head from passing through the pelvic canal. Here we were justified in inducing an abortion; and a soft ca-

theter, and, later, a laminaria tent and electricity, accomplished this result. The patient made an excellent recovery.

CASE VII.—Miss F., aged 25, came to my clinic at the Post-Graduate Medical School in March, 1887. Had not menstruated for four months. Confessed possibility of pregnancy. Uterus reaching to umbilicus; fetal heart heard to left side of uterus. Dense, non-sensitive tumor to the right of uterus, and connected with it. Diagnosis of interstitial fibroid tumor in right side of uterus complicating pregnancy. Tumor so high up as not to be likely to delay labor. The patient was advised not to interfere with the condition. She went to full term, and was safely delivered.

CASE VIII.—Mrs. Welsh, aged 38, married five years, has been suffering from two large fibroids, one subperitoneal, and the other interstitial, and several smaller ones. Came to me first in May, 1884. Has taken ergot. Tumors have not grown since I first saw her until pregnant. Menses ceased on July 4th last; was comfortable most of the time until September, when she had a localized attack of peritonitis or inflammation in the upper and larger tumor, situated above the right horn. Came very near dying; high fever, rapid pulse; pulse 120 for several weeks. Abdomen very tender. Uterus kept increasing in size. Subjective and objective symptoms of pregnancy decidedly marked.

Jan. 3d, mother's heart beat 110 to 120. Fetal heart, 135. Patient seen by Dr. Thomas, who confirms my advice to wait till full term.

In this last case there had been two months of fever occasioned by a localized inflammation around the two upper tumors. The large tumor, three by four inches, in lower segment of uterus on posterior wall does not involve enough of the cervix at internal os to prevent delivery of child.

### *Probability of Pregnancy.*

Pregnancy is not so common when there are existing fibroids. According to Virchow and Scanzoni, one-half of their married women who had tumors were sterile. Graily Hewitt believes a very large per cent of his cases were sterile. I find on looking over my notes that, of those who have consulted me at my office, full seventy per cent have been sterile.

Married women are more subject to these tumors than single, and colored women more than white.

### *Locality.*

The posterior wall is the most common seat. They are seldom found under the broad ligaments; but when there, are

a source of very great pain, much more than when in other localities.

Tumors do not grow from the body into the cervix, but the reverse. Small tumors are round or slightly flattened; they have few nerves and blood-vessels, and being generally encapsulated, can be easily enucleated before or after labor. They grow during pregnancy in the direction of the least resistance, and consequently we often have a peritonitis started from the pressing outward of an interstitial tumor.

### *Prognosis.*

A fibroid in any part of the womb is a source of danger. Even when high up, they may become inflamed (see Cases I. and VIII.) during pregnancy, and necrosis may set in and septic fever follow. After delivery, this result is quite frequent. If large, with a broad base, we must expect more or less hemorrhage (see Case II., also Dr. Lee's, etc., etc.). It is always possible for a tumor to grow, but sometimes they have been known to entirely disappear (see my Case V.). Gusserow ("Cycl. Gyn. and Obst.," Vol. IX., p. 321) claims that the possibility of absorption is not proven.

But the possibility of retrograde metamorphosis, although quite small, should nevertheless be remembered, for many of us have seen fibroid tumors disappear under ergot and electricity, and why not suppose it possible for such a result during pregnancy? Certainly, in one of my cases the tumor disappeared during the last month of pregnancy, after having been seen by Drs. Thomas, Lee, Billings, and myself.

Fibroid tumors complicating pregnancy will aggravate nearly all of the more common symptoms of that condition.

Two of my cases have had attacks of local peritonitis at the seat of tumors, both patients nearly dying of this condition. Two of my cases had sharp retroversion and incarceration of uterus at the third month, undoubtedly much aggravated, if not caused directly by, the tumor.

Many of those cases to which I have referred have suffered such excruciating pain from the inflammation and retroversion that they have finally aborted.

One case, a patient of Dr. C. E. Phillips, of this city, went to the seventh month, but had so much distress that, after a consultation with me, my associate, Dr. Talbot, and several

other physicians, premature delivery was resorted to. She made a good recovery. But rather than expose herself to the agony of another pregnancy, she consented to an abdominal hysterectomy, which was successfully performed, this last autumn, by Dr. James B. Hunter.

Then, too, there is always the possibility, and even a probability, that the patient will suffer from the disturbed circulation which is present with so many tumors of this character.

If abortions take place, they are more tedious and more dangerous, and if pregnancy goes on to full term, Nauss found that in 228 labors thus complicated, 53 per cent of the women died; Susserott out of 147 cases, 53 per cent of the women and 66 per cent of the children died ("Cycl. Gyn. and Obst.," Vol. IX., p. 316). This fearful mortality can be greatly reduced at the present time with our improved methods of antiseptic midwifery, and our better knowledge of these tumors.

Susserott ("Cycl. Gyn. and Obst.," Vol. IX., p. 314) found that in 147 cases, 20 were delivered with forceps; 12 mothers and 7 children lived. Version in 20 cases; 8 mothers and 3 children lived. Placentas removed by hand, 20 cases.

The fact of these tumors being present makes an abnormal presentation of the child a very common occurrence. And after delivery, the uterus does not contract with normal regularity. Rupture and hemorrhage, therefore, are not unusual. Susserott found that nine out of one hundred and forty-seven cases died from hemorrhage ("Cyc. O. G.," Vol. IX., p. 310). Nature's effort to expel the tumor after labor often inverts the uterus, thus inducing another complication. Dr. Edis speaks of two cases where a flattened submucous fibroid was easily mistaken for retained placenta after delivery, and was a source of danger to the patient, and anxiety and mortification to the doctor.

### *Diagnosis.*

Many of the objective symptoms of pregnancy may be masked by the fibroid tumor. The flow or *a* flow may continue up to fifth or sixth month. (See Mundé's case, Trans. Am. Gyn. Soc., 1884.) If the tumor is submucous, it most likely will occasion some loss of blood. The enlargement of the uterus by the tumor in many cases, of course, renders it impossible to say that it contains a fetus.

The uterus will be unevenly developed; some portion of the body will be dense, while other portions will have the soft, elastic feel of pregnancy. The breasts will change, the reflex gastric symptoms will be present. However, a *positive* diagnosis cannot be made at an early date of the pregnancy. In stout women it would be exceedingly difficult. Only after the uterus has enlarged and the fetal heart-beat has been heard are we reasonably positive that we have the two conditions present.

When, however, a diagnosis is made, we should lose no time in learning the exact condition and size of the tumor. For the treatment must be varied according as the tumor is large or small, is located in the cervix or in the upper two-thirds of the uterus, is submucous, subperitoneal, or interstitial, and the rapidity with which it may have developed, for it has been found that those which grow most rapidly during pregnancy are most intimately connected with the circulation of the uterus.

We must remember that, in deciding upon a course of treatment, we have to consider the fact of a probable increase in the size of the tumor, at least for the first six months. (See cases IV. and V. of mine, where the tumors increased in size for full six months.)

If the tumor is subperitoneal and high up in body of uterus, we may expect but little interference in the normal delivery. But if in lower third or in the cervix, we may find it necessary to push up the tumor in order that the head may be delivered. (See my case, No. V.)

If the tumor is submucous, we must expect a severe hemorrhage, wherever it may be located. Fibroid polypi, when located near fundus uteri, may get in advance of the head, and need to be replaced. If the tumor is large and located in the cervix, we must try and enucleate it. (See Dr. Thomas' remarks in my case, No. 4. Mundé's paper, *Am. Gyn. Trans.*, 1884; Danyau, 1851; Daye, *L. O. S. Tr.*, Vol. XXVII., p. 158; Hicks, *L. O. S. T.*, Vol. I.)

Enucleation is not generally difficult. The capsule should be incised, and tumor seized with vulsella forceps or strong tenaculum, and enucleated with Thomas' spoon saw or the hand. When the tumor is small, but still in upper segment of the womb, it can be allowed to remain undisturbed.

Playfair allows the mother to wait till full term in all such

cases, then enucleates or pushes tumor above brim. Sir Spencer Wells advises pushing tumor above the brim. Baudelocque, however, was the first to teach the advantage of this practice, and then hastening labor.

At full term, if the child is alive and the tumor cannot be pushed above the brim, enucleation should be resorted to.

If enucleation cannot be safely undertaken, and it is impossible to deliver per vias naturales, then Cesarean section or Porro's operation should be performed. When the tumor is in the cervix and involves a large part of it and is very dense, we must induce early abortion, since such a case will most surely require a Cesarean section if allowed to go to full term. But the case should be allowed to go to full term, if it seems possible to deliver a living child at that time.

If there is excessive hemorrhage, remembering the cause, we must inject stimulating astringents, and resort to transfusion. If septic fever sets in during pregnancy or after delivery, the patient must be stimulated and well nourished, and treated as in the same fever when the condition is otherwise uncomplicated.

### *Cancer of the Uterus.*

When the pathological change in the uterus is of a malignant type, we have to consider that fact, in deciding upon our course of treatment. But here, too, we cannot ignore the rule which I laid down in the management of the patient when fibroid tumors complicate pregnancy, viz.: "Treat each patient as her peculiar local condition and her general health and strength may indicate."

#### My own case (Case A).

Mrs. D., multipara, aged 40, consulted me for unusual discharge from and pain in region of vagina. On examination, found epithelioma involving all the cervix. Uterus size of three months' pregnant womb. Some subjective symptoms of pregnancy. Cauliflower growth carefully removed with sharp curette in usual manner. Uterus increased daily in size. Disease made fair progress. Labor came on at about eight and one-half months. Cervix dilated in eighteen hours. Forceps used to aid delivery. Mother and child did well.

#### My second case (Case B).

Mrs. B., 34 years, multipara, patient of Dr. Kennedy; seen in consultation. Labor had been in progress several hours. No



fetal heart-beat. There had been occasional hemorrhages, and the patient had become somewhat emaciated during the last six months. Two-thirds of the cervix were destroyed. Disease had commenced in posterior lip. Cervix was dilated to the size of a silver dollar. Used fingers to aid dilatation. Slight fissures in diseased portion, but little hemorrhage. Dead child delivered without instrumental aid within twelve hours after labor had set in. Child had been dead some days. Mother did well. Four months later entered the Post-Graduate Hospital, where I removed with scissors and cautery all the diseased tissue. Nine months later, the patient had gained twenty pounds in weight. Her physician, Dr. Kennedy, believed that the disease made very rapid progress during pregnancy.

I believe a few general rules can be formulated, however, which will aid us in adopting and judiciously executing the best plan of treatment. I will only call your attention to the symptoms, diagnosis, prognosis, and treatment. It is not always easy to make a direct diagnosis of pregnancy when either of these most common tumors are present. 1st. Because the hemorrhage which is present may be supposed to be the menstrual flow. 2d. Because the enlargement of the uterus may be supposed to be due entirely to the cancer or the fibroid, whichever may be present. Unless the subjective symptoms of pregnancy are given to you, one might justly be excused if pregnancy was overlooked. Indeed, such has been the case in a number of instances on record (see Lavery's case, L. O. T., Vol. XX., p. 82). But when you have over and above the usual symptoms of carcinoma uteri the subjective and objective symptoms of pregnancy, and, as is most common, with all of these symptoms exceedingly aggravated and intensified, one can hardly fail of a correct diagnosis. It has surprised me to find that a woman with a decidedly cancerous cervix or body is still capable of becoming pregnant and carrying the fetus to full term. Several patients have conceived a second time, and been delivered of a full-term child when at the previous labor the disease seriously complicated the delivery (see Lavery's case, loc. cit.). (In my first case, the mother conceived a second time, but aborted after three months.) It is, therefore, evident that there is nothing in cancer, *per se*, which destroys the life of the spermatozoa, or renders the ovaries sterile, or the uterus incapable of sustaining the ovum. Undoubtedly a woman is less likely to conceive when the uterus is markedly

diseased. Still we must not forget the fact that the two conditions occasionally exist at the same time.

*Prognosis, with Reference to the Life of the Fetus.*

A woman with carcinoma uteri is more likely to abort than is the healthy woman. Undoubtedly many a cancerous patient has aborted, and her family physician and herself have supposed that the excessive pain and hemorrhage were only the result of the disease, uncomplicated with pregnancy. Cancer, *per se*, is the direct cause of the cachexia which may, and often does, result in the malnutrition and final death and premature expulsion of the child.

Then, too, the excessive hemorrhage may be a direct cause of the death of the fetus.

In his valuable and scholarly paper on "Cancers of the Uterus Complicating Pregnancy" (see "London Obst. Soc. Trans.," Vol. XX., p. 206), Herman reports that six per cent aborted; in two of his twenty cases, however, the abortion was induced.

In the absence of any absolute data upon this subject, it is fair to suppose that an abortion, if it is to take place, will most likely occur at or before the third month. The final delivery of the child, however, if pregnancy goes on past the sixth or seventh month, is generally before the *ninth* month. Of one hundred and twenty-eight children of cancerous mothers, according to Hernan's paper, one-half were living.

The prognosis for the mother must vary very much in each particular case. If she aborts, the abortion may be the precursor rather than the cause of death, and we must expect that a woman with carcinoma uteri is less likely to recover after an abortion than if the accident occurred from a less grave cause or complication. Still out of twenty cases of abortion there were only two deaths (l. cit.). If the mother goes to full term or nearly full term, we can fairly expect that she will stand more than an even chance of recovery from the effect of the delivery. (See l. cit.; forty patients died out of one hundred and thirty-seven.) And these statistics can be greatly improved upon at the present day, since we understand the principles of antiseptic midwifery far better than formerly. There is no evidence that puerperal fever is more common or more fatal in these cases.

In many cases of pregnancy complicated with carcinoma, the disease seems to make very rapid progress during pregnancy. There is no rule, however, to guide us in this matter, as in one of my own cases the disease made surprising inroads during the pregnancy, while with the other little or no change took place during the nine months of utero-gestation. Martin's case and Olshausen's case. West's case. Matthews Duncan's (L. O. T., vol. XX., p. 286) made rapid progress.

Herman believes that cancer grows more rapidly during pregnancy. After delivery, however, the disease seems to remain quiescent for a time.

### *Treatment.*

When cancer attacks the uterus, vagina, or rectum, closing tightly the cervical canal so that no dilatation can take place, or blocking up the vagina with a firm, immovable tumor, then this diseased tissue must be removed by the knife, the scissors, the wire or the actual cautery, or the child must be removed through an abdominal section.

It matters but little where in the genital tract the disease may be located, whether in the cervix, vagina, or rectum, it is so similar in its general appearance and its symptoms, and in its final results, unless surgical interference is attempted, that when we have rules to govern us in one class of cases they will apply to all cases of disease in this locality. After watching each case for a longer or shorter period as may be necessary to fully understand the progress the disease is making and the effect it is having upon the life of the child, we will then be justified in producing abortion or premature delivery, or using palliative treatment, and finally using the forceps, turning, or resorting to Cesarean section, etc.

It is important to carefully watch the patient during the last months of pregnancy if a live child is to be delivered. Labor must be brought on in the best possible manner, when the fetal heart-beat indicates its approaching death. If there is a great amount of soft, easily broken down, cancer granulation, attended with much or little hemorrhage, and a decidedly fetid discharge, and especially when these conditions and symptoms are present together with a marked cachexia from the re-absorption of the ulcerating and decomposing local disease, then an operation should be performed for the removal

of as much as may seem justifiable of this diseased growth. This palliative treatment will result, in the vast majority of cases, in at once giving the patient an opportunity to recuperate, and in making her willing to meet and mingle with her friends again, without the feeling that she is a source of offence to them by reason of the foul odor from the vaginal discharge. If the fetal heart-beat continues strong, and we have the general indications that the mother can go on to full term, we are justified in such delay. For at the beginning of actual labor the cancerous tissue becomes less dense, the healthy portion of the cervix begins to dilate, and a decided change is noticed long before the child would die from any cause which is peculiar to parturition. In uncomplicated cases, we should not bring on labor until it is reasonable to suppose that the child may live, especially when only a part of the cervix is diseased. Spiegelberg (*L. O. T.*, Vol. XX., p. 207) states that, when only one lip is involved, she should go to eight months and delivery will generally be easy and safe.

This is my own experience, and even when all the circumference was more or less involved (Case B), still labor was not very tedious, and in my first case (Case A) labor was not much delayed by the disease. Some cases have had quick labors even though the whole cervix was involved. In a summary of 51 cases delivered unaided (see Herman's paper), 13 had the whole cervix destroyed, and 5 of these 13 were sick but one day. In 128 cases, forceps were applied 9 times. In 11 cases the uterus ruptured, and in 20 cases the patient aborted. The forceps seemed to have no other effect on mother or child than the assistance it rendered in delivery, while of the 9 cases where turning was resorted to, 8 of the mothers died within a month.

Phillips (*L. O. T.*, Vol. XV., p. 67) advised delay when at all promising, and believed that in time nature would succeed in slowly dilating the cervix, but that each case must be judged on its own merits.

Braxton Hicks (*L. O. T.*, Vol. XVIII., p. 86) states that no rule can be laid down for all cases; that each case should be treated according to its own merits.

Of the 12 (see Herrman's paper) cases of Cesarean section, 8 mothers died and 3 children died; of 12 craniotomies, 9 mothers died in one month; of the 51 cases of unaided deliv-

ery, 15 had only part of cervix involved, while 13 had the whole circumference of cervix implicated.

Dilatation takes place in the healthy part of the cervix. The diseased tissue is often fissured, and gives way, or is pushed down, or crushed against the sacrum or pubes. Often it can be removed in great part at the time of labor, and by thorough douching and the application of pyroligneous acid, or other medicaments to the parts, the labor can be made but little more dangerous than normal.

In regard to the best methods of delivery, Herman believes that forceps give the child the best chance when it is necessary to aid in the delivery.

Of 128 cases, 51 were delivered unaided, in 9 cases children were turned; in 12 cases, Cesarean section was performed; in 12 cases, craniotomy was performed; in 13 cases, the patient was not delivered.

When laceration takes place at or near the diseased portion, according to Herman's report of nine cases, eight had no severe hemorrhage. In my second case (Case B), the hemorrhage from laceration was slight.

At the present time, with strict antiseptics, podalic version can be performed much more successfully, and we might hope to check hemorrhage more surely after one or both legs had been brought down and the hips were pressing against the bleeding diseased tissue.

To recapitulate:

In Edematous Tumors.—Use hot-water douches; change the posture to the knee-chest; press up the tumor, or, if necessary later, incise the tumor.

In Fibroid Tumors.—Bring on early abortion if nearly all the cervix is involved; when subperitoneal or interstitial, near either lip or the os internum, press up tumor above brim, if possible; otherwise place patient in knee-chest first and enucleate; if unable to deliver per vias naturales, perform Cesarean section or Porro's operation.

In Cancer.—Induce abortion if cancer is decidedly hard and involves all cervix; if child seems to be failing, induce labor at once; remove local disease with best means at command. If patient does not succeed in effecting delivery, use forceps first, turning second, and Cesarean section third.

THE ETIOLOGICAL RELATION OF CERVICAL LACERATION TO  
UTERINE DISEASE.

---

BY

BROOKS H. WELLS, M.D.,

New York.

---

At the meeting of "German Naturalists and Physicians," held at Wiesbaden in September, 1887, Dr. Emil Noeggerath, recently of this city, read a paper before the Gynecological Section, in which he most absolutely denies that cervical lacerations, even of the most severe nature, exert any causative influence in the production of those uterine disorders and symptoms commonly attributed to their presence. His conclusions, reached through a statistical study of one hundred cases taken from his own practice, fifty of which had suffered bilateral cervical tears to the vaginal vault, and fifty of which bore intact cervices, are as follows:

I. "Women with uterine diseases conceive more easily if the cervix is lacerated than if it is intact; they abort less often in the first condition than in the second."

II. "The position of the uterus is not influenced by cervical laceration."

III. "The uterine axis is not lengthened by cervical laceration."

IV. "Erosions and ulcerations are equally frequent in lacerated and intact cervices."

V. "Eversion of the lips is never the direct result of cervical laceration."

VI. "Disease of the tissues of the cervix is not more frequent in lacerated than in uninjured cervices."

VII. "Cervical tears have no influence on the development of uterine diseases either as to intensity or frequency."

From these he draws the further inference that lacerations are only of importance immediately after labor, when they may open up the blood and lymph vessels, allowing hemorrhage and the entrance of pathogenic microbes into the organism,



and that the time will come when they will be stricken from the list of pathological conditions of the uterus. He admits the malign influence of cicatricial tissue on the uterine nerves, but denies that there is any indication whatever for restoring the cervix to its natural condition or form, his figures even showing a palpable benefit to the patient from the presence of the tear.

These views are directly the reverse of those generally accepted by the profession in America, and, even though stated by so eminent a gynecologist as Dr. Noeggerath, are evidently an illustration of Sidney Smith's clever saying that "Nothing is so deceptive as figures, except facts." I have, therefore, at the suggestion of Dr. Mundé (who kindly placed his private record-books at my disposal), endeavored to find an average in which the margin of error would be less, and have based my figures on a careful study of four hundred cases.

While it is practically impossible to formulate an absolute standard in a statistical research of this nature, the figures given by me in this paper have been carefully elaborated, and bear certain claims to be authoritative in the matters which they touch. Thus the records from which they have been compiled were written with no preconceived notion of ever using them for this purpose; they were taken by one with a large clinical experience, who may be presumed to be as near correct as possible in the diagnosis of the conditions noted, and they are used in the tables with nothing added and nothing omitted.

The cases are taken seriatim from the records, all being included save those of women who had not borne children, those of uterine and ovarian tumors, and of malignant growths. They are divided, for purposes of comparison, into four classes; first, those with intact cervixes; second, those with slight lacerations (first degree); third, those torn half-way or two-thirds to the vaginal vault (second degree); fourth, those torn to the utero-vaginal junction (third degree); the latter three classes including both unilateral and double-sided tears. In the tables Dr. Noeggerath's figures have, for greater ease of reference, been placed in parallel columns with my own, having first been reduced to a corresponding basis so that each figure represents a *percentage value*.

By bringing lacerations of the first and second degrees into

the discussion, I hope to show that not only do lacerations cause or predispose to certain uterine disorders, but that they do so directly in proportion to their severity.

Each of Dr. Noeggerath's conclusions will be considered separately, beginning with

I. "Women with uterine diseases conceive more easily if the cervix be lacerated than if it be intact; they abort less often in the first condition than in the second."

TABLE I.

*Number of Children and Number of Years Married.*

No. of Children.	Noeggerath's Cases.		Mundé's Cases.			
	Not lacerated.	Lacerated 3d degree.	Not lacerated.	Lacerat'd 1st degree.	Lacerat'd 2d degree.	Lacerat'd 3d degree.
1	32	16	35	30	20	25
2	12	22	22	30	23	19
3	12	12	14	13	10	7
4	14	18	10	9	10	16
5	14	18	5	9	12	10
6	4	4	6	7	8	9
7	4	4	4	2	7	5
8	4	2	0	0	5	1
9	0	0	1	0	3	3
10	2	0	2	0	0	1
11	0	4	0	0	2	2
12	2	0	1	0	0	2
Total No. of Children.	346	370	291	266	382	378
Gravid when record was taken.			14	10	7	5
Average No. of years married during child-bearing period.			8.83	8.90	13.04	12.95

A superficial glance at Noeggerath's figures in this table would seem to show him correct, when he states that the total fertility in the cases noted was increased by the presence of the laceration, and that especially "first-child sterility" was much more frequent with intact cervixes, fifty-two per cent of these latter, and seventy of the torn having borne from two to five children. Let us, however, look at some collateral evidence which will influence the result, and which must be studied before we can make a just estimate of their worth. A factor of

especial value, which we do not find, is the average number of years of married life in the two classes.

Again, in regard to the apparent first-child sterility, part of the excess, and probably a considerable part, would disappear could we accurately find the time of occurrence of the laceration, the probability of the presence of which, though greatest after the first birth, increases with each succeeding delivery. Thus, women having borne only one child would be less liable to be badly torn than those having had several children.

Turning now to my tables, we do not find so large a proportion of first-child sterility in the column of intact cervixes or an excess of second children in the deeply torn; the figures, indeed, showing a marked similarity throughout each of the four grades. The total number of children is greater with the torn than with the intact cervixes, but the ratio of increase is not as great as it should be, when compared with the average of the years of married life, for while in the first grade the ratio is very exactly one child for each three years of marriage—the same as that given by Matthews Duncan in his elaborate work on fecundity, fertility, and sterility—in the last, representing the more severe lacerations, the proportion is considerably less. At the time when the case-records were taken, fourteen of the first grade were gravid, but only seven of the deeply torn.

TABLE II.

*Abortions.*

No. of Abortions.	Noeggerath's Cases.		Mundé's Cases.			
	Not lacerated.	Lacerated 3d degree.	Not lacerated.	Lacerated 1st degree.	Lacerated 2d degree.	Lacerated 3d degree.
1	16	18	25	21	25	25
2	8	0	4	7	9	12
3	0	2	0	2	2	4
4	0	4	2	3	1	2
5	0	0	1	1	3	1
6	0	0	0	0	2	0
7	0	2	0	1	0	1
Total.	24	16	32	35	42	45
	Aborted 32 times	Aborted 44 times.	Aborted 46 times	Aborted 65 times.	Aborted 80 times.	Aborted 81 times.

<sup>1</sup> Sixteen per cent of Noeggerath's lacerated cases aborted, but the number of abortions of each is given in his article for twelve per cent only. The remaining four per cent may have had several abortions each, but for fairness they are included in the percentage which aborted once.

By table II. we find that, while *first* abortions are of about equal frequency in all the grades, as shown by Mundé's cases, Noeggerath finds an excess occurring with non-lacerated cervixes. The figures of both, however, show that the liability to *repeated* abortion is greater with torn than with intact cervixes, and that the liability increases with the severity of the tear, the proportions for the four grades being seven, fourteen, seventeen, and twenty. The total number of abortions is also very markedly increased, twelve of Noeggerath's fifty intact cases aborting sixteen times, while eight of the fifty torn aborted twenty-two times. Of Mundé's, thirty-two with intact cervixes aborted forty-six times, while forty-five of the deeply torn aborted eighty-one times.

All of these factors show that deep cervical tears do not increase, but lessen somewhat the productive fertility of those in whom they have occurred.

II. "The position of the uterus is not influenced by cervical laceration."

TABLE III.

*Position of Uterus.*

	Noeggerath's Cases.		Mundé's Cases.			
	Not lacerated.	Lacerated 3d degree.	Not lacerated.	Lacerated 1st degree.	Lacerated 2d degree.	Lacerated 3d degree.
Normal or slightly anteverted						
or flexed.....	48	50	51	54	51	39
Anteversion.....	10	6	3	4	2	4
Anteflexion.....	10	4	7	2	5	6
Retroversion, 1st degree.....	..	..	9	13	10	19
"    2d degree.....	..	..	7	4	10	15
"    3d degree.....	..	..	2	1	1	1
Total Retroverted.....	6	12	18	18	21	35
Retroverted and flexed.....	4	4	..	..	..	..
Retroflexion, 1st degree.....	..	..	2	3	1	1
"    2d degree.....	..	..	1	1	4	2
"    3d degree.....	..	..	4	0	1	1
Total Retroflexed.....	6	12	7	4	6	4
Retroversion and descent.....	..	..	2	5	4	7
Retroflexion and descent.....	4	2	3	0	1	1
Descent.....	6	6	6	9	6	4
Lateroverted.....	6	6	3	4	4	6

A study of this table shows that, while in the main the figures from both sources are approximately similar, there are

several points where they diverge. Among Noeggerath's cases, the percentages of normal positions without and with lacerations are forty-eight and fifty, those which I have obtained being fifty-one and thirty-nine, a difference of twelve per cent in favor of intact cervixes, while Noeggerath shows two per cent against them. The principal factor in this difference becomes apparent when we look to the excess of ante-displacements shown in Noeggerath's intact cases. In the much more important forms of displacement, apt to occur where the uterus from any cause has become heavier than normal, we find a striking similarity in the ratios; thus I find the various grades of retroversion and retroversion with descent to become more than twice as frequent (20 to 42) with lacerations of the third degree as where the cervix is intact, while Noeggerath gives a similar though much smaller proportion (6 to 12). Further, in my tables, it is shown that the frequency of these backward displacements increases directly with the depth of the tear. Taking all the forms of backward displacement together, the ratio is not quite so great (37 to 51 in my tables, 20 to 30 in Noeggerath's), but is still very significant, especially when taken in consideration with the excess of hyperplasia and subinvolution, shown in table IV., so that we must admit that, by increasing the weight of the uterus, cervical tears increase the proportion of backward and downward displacements. Pure descent of moderate degree, with no other displacement, bore no apparent relation to the condition of the cervix in Mundé's cases, but was always accompanied by perineal laceration and vaginal relaxation or subinvolution.

III. "The uterine axis is not lengthened by cervical laceration."

TABLE IV.

*Condition of Uterus.*

	Mundé's Cases.				
	Not lacerated.	Lac. degree.	1st Lac. degree.	2d Lac. degree.	3d degree.
Hyperplastic.....	8	10	17	80	
Subinvoltuted.....	21	19	20	29	
Total per cent increased in weight...	29	29	37	50	
Increased in depth.....	17	16	25	26	
Average depth in inches.....	3.025	2.995	3.285	3.355	

In Noeggerath's cases, the total length of the fifty uteri with-

out lacerations was 382 cm., in the fifty with lacerations it was 361 cm. He, however, agrees to call these equal, allowing the 21 cm. shortage in the cases of laceration for possible error in the measurement in twenty-four cases where eversion was present. This would make the average depth 7.64 cm., or 3.008 inches, a result agreeing very closely with that which I obtain in cases with intact cervices (3.025 in.), but being considerably less than that found in third degree lacerations, viz., 3.355 inches. In an astonishingly large proportion of Dr. Noeggerath's cases—*seventy-six per cent with intact cervices and sixty-eight with lacerations*—the uterine cavity was increased in depth. This large proportion is the more astonishing when compared with the average depth, which is even less than that I find with corresponding figures of only *seventeen* and *twenty-six*.

While the average depth is but slightly increased by the lacerations, an extremely important fact shown by Mundé's cases is the greatly increased frequency of hyperplasia uteri, which would seem to be more frequent directly in proportion to the severity of the laceration, the percentages of the four classes being eight, ten, seventeen, and thirty. Subinvolution is also shown to be more frequent with the deeply lacerated than with the intact cervices.

Taking the two conditions, as they would naturally be classed, together, we find that twice as many uteri with deeply torn as with intact cervices are increased in weight. The reasons for this increase will be apparent when we study the conditions shown in table V.

IV. "Erosions and ulcerations are equally frequent in lacerated and intact cervices."

V. "Eversion of the lips is never the direct sequence of cervical laceration."

TABLE V.  
*Condition of Cervix.*

	Noeggerath's Cases.		Mundé's Cases.			
	Not lacerated.	Lac. 3d degree.	Not Lacerated.	Lac. 1st degree.	Lac. 2d degree.	Lac. 3d degree.
Eroded.....	....	....	12	11	4	6
Everted. ....	....	....	2	19	27	23
Eroded and everted. ....	....	....	0	7	20	40
Total eroded. ....	66	56	12	18	24	46
Total everted.....	....	48	2	26	47	63



Dr. Noeggerath found "erosions and ulcerations" in *sixty-six* per cent of his non-lacerated cases and in *fifty-four* per cent of those torn, figures which are surprising. The corresponding data which I have obtained reverse the proportion, being only *twelve* and *forty-six*, the series showing a progressive increase in the frequency and severity of the lesion corresponding to the depth of the tear. The ratio of eversion is similar, but is even more striking.

Recent microscopical investigations (Cushing, Miller, Ruge and Veit) have shown that what are usually called erosions of the cervix consist rather of an active proliferation of new gland tissue which, beginning in the endo-cervical mucosa, extends outward over more or less of the surface of the cervix, the process going on at first under the normal flat epithelium of the part; afterwards this layer is lost, its place being taken by the underlying cylindrical or glandular epithelium, so that there is really no proper erosion except when this cylindrical epithelial layer is destroyed by the advent of tubercular or malignant degeneration. This process of glandular hypertrophy may be initiated by several forms of irritation, as that from an acrid discharge, or exposure to unusual traumatic influence, or circulatory disturbance; the process very probably depending primarily, as stated by Cushing, on some form of bacterial growth. While this "glandular endometritis" may and does occur in the intact virginal cervix, it is much more apt to appear after the birth of children, especially where a laceration has occurred, and where the cervical mucosa is more exposed and more ready to take on diseased action. These views of the etiology and probable relative frequency of the condition are supported by the facts shown by my figures in table V., under the heading total eroded, where we find the relative frequency in the intact and torn nearly as one to four. •

Noeggerath denying that eversion is ever the direct sequence of a laceration, states that it is caused by (1) the thickening of the uterine mucosa, by (2) the direct pressure of the posterior vaginal wall against the torn lips, the uterus being usually anteverted, and (3) that it is often made apparent where it is not by the use of the Sims' speculum and depressor. He gives in support of these the evidence of his figures and a case where he incised the cervix and inserted for some time a Conant pessary, on the removal of which the lips at once fell together.

Let us consider these propositions in turn, premising their discussion by a statement of the manner in which we consider that eversion most often occurs. When a considerable laceration of the cervical tissue has taken place, and the wound has not healed at once, there remains a hyperemic, granulating surface which becomes a seat of constant irritation, the resulting hyperemia interfering with the normal retrograde metamorphoses and keeping the organ larger, heavier, and more succulent. The exposed cervical mucosa, pulpy and hyper-secreting, often undergoing the glandular hypertrophy of Cushing, by its mechanical action begins to push the cervical lips apart, thus exposing them to increased irritation from the rubbing and pressure of the vaginal walls when the patient is erect, and from other incidental traumata. In time, the constantly present hyperemia of the whole uterus leads, as it would in other organs, to the formation of new connective tissue, subinvolution passes to hyperplasia, the tissues become dense, hard, and anemic, and the eversion with the glandular hypertrophy more and more marked, the contraction of the new-formed connective tissue tending to pull the lips still more apart. These etiological factors include the first given by Noeggerath, with this difference only, that while I should regard them in most instances as logical sequences of the laceration, he claims that they are not.

Regarding the second proposition, it is very probable that, with a deep laceration and some present degree of eversion, the tension and pressure of the vaginal wall aid in increasing the divergence of the lips, even though we cannot admit that the uterus is unusually anteverted, in the face of the evidence of table III.

That the Sims' speculum should cause a simulation of eversion, when used with even a moderate degree of skill, is a surprising statement when made by one of Dr. Noeggerath's reputation and experience. Properly used, this speculum will not put the walls of the vaginal vault upon the stretch sufficiently to evert the cervical lips, unless one purposely endeavors to do so, while the cylindrical and bivalve are very apt by direct pressure to flatten out the lips and show us the old-fashioned "ulceration." Besides eversion can, should be, and is detected by the trained finger as well as the eye.

That in the cervix cleanly incised by the knife the lips have

no tendency to evert, but rather are inclined to heal, can no more be used as an argument against the direct tendency which the cervix, bruised and torn during parturition, has to become everted, than can its analogue, vesico-vaginal fistula made by the surgeon's art, and which, as we all know, tends so strongly to close that constant care is necessary to keep it patent, be used as an argument to prove that a similar lesion the result of parturition should, instead of producing its usual serious and persistent sequelæ, contract and close without treatment.

Eversions and erosions, where there is a torn cervix, occur more often conjointly than singly, each reacting to increase or induce the other; both their frequency and importance increase rapidly in proportion to the depth of the tear.

VI. "Disease of the tissue of the cervix is not more frequent in lacerated than in uninjured cervixes."

Areolar hyperplasia of the uterus, *as a whole*, is shown in table IV. to be nearly four times as frequent in uteri with deep lacerations as where the cervix is intact and more or less glandular hypertrophy and cystic induration of the cervical lips was a nearly constant accompaniment of the more marked degrees of eversion noted in table V.

Of the serious lesions of the cervical tissue which may be induced by the conditions following laceration, malignant degeneration is the most important, and though some state that, clinically or histologically, they "have never seen the *slightest evidence* that laceration of the cervix predisposes to the subsequent development of cancer," others, among whom are Mundé and Goodell, with equal authority assert that it does.

Exact clinical evidence on this point is rather difficult to obtain, for cervical cancer is not usually seen until it is too late to determine surely whether or not there had been a pre-existing cervical rent. It is certain, however, that the vast majority of cases of cervical cancer occur in parous women. Of twenty cases, eighteen had borne seventy-one children; two were sterile; seven were known to have suffered cervical tears. One case, when first seen by me, had a deeply torn, eroded and everted cervix, but though strongly advised to undergo an operation, refused; one year later, she returned with a carcinomatous mass too extensive to allow of other than palliative

treatment, and shortly afterwards died. Mundé, Goodell, and others have noted many similar cases.

Histologically, the transition from the glandular hypertrophy (which would seem to be almost a form of adenoma) is both plausible and possible, a similar change not rarely occurring in other allied forms of adenomata, as in certain cases of gastric carcinoma.

A consideration of these factors, clinical and theoretical, makes it very probable that, through its tendency to produce disease of the mucosa, cervical laceration predisposes to the development of cancer.

VII. "Cervical tears have no influence on the development of uterine diseases, either as to intensity or frequency."

Noeggerath has found, in various gynecological journals, twenty-four<sup>1</sup> distinct affections of the uterus, its adnexa, or of the general nervous system, which, in the particular cases noted, were supposed to be the direct or indirect result of cervical tears, but he believes that, in all these instances, the observers were mistaken when they attributed the disorder to the presence of the laceration. ♀

Of the etiological influence of cervical tears on the purely uterine affections already discussed—on fertility; on abortion; on retro-displacements; on subinvolution and hyperplasia (metritis chronica): on hyperplasia, eversion, and erosions of the cervix; on the development of malignant disease—there can be but little doubt. On some other points we will take evidence from Noeggerath's own tables, thus in that most frequent affection endometritis, catarrhal and hyperplastic, of the uterine body or cervix, *fifty-eight* per cent of his intact cases and *seventy-six* per cent of those with torn cervixes were affected. Mundé's proportion was smaller, but with the balance on the same side being *twenty-three* per cent for the intact and *seventy* for the torn.

It is somewhat difficult to make a general classification of the forms of endometritis, as they occurred in the two sets of cases, but approximately it is as below:

The number as given in the original paper is twenty-six, but of these "metritis colli" is enumerated twice and "Hyperplasie der Schleimbaut des Cervix" may be considered synonymous with "Entwicklung von Ovula Nabothi," thus reducing the total by two.

	Noeggerath's Cases.		Mundé's Cases.	
	Intact.	Torn 3d deg.	Intact.	Torn 3d deg.
Catarrhal Endometritis.	32	46	9	14
Hyperplastic "	12	14	4	10
Cervical "	14	16	10	46
	—	—	—	—
Total percentage,	58	76	23	70

Noeggerath's figures here show an unusual proportion of corporeal, catarrhal, and hyperplastic endometritis; those from Mundé's cases are more in accord with the generally received impressions concerning the relative frequency of the various forms. Both, however, show a marked increase in frequency in the presence of cervical laceration, a result we would, *a priori*, expect as a concomitant of the conditions already shown to so often follow the tear.

In Mundé's cases again the same factors caused an increase in the proportion of menorrhagia, as follows :

			Intact.	Torn 3d deg.
Menorrhagia from Catarrhal Endometritis.			1	6
" " Villous "			1	2
" " Uterine Subinvolution,			3	3
" " " Hyperplasia,			1	4
			—	—
			6	15

Chronic parametritis is a common affection and may be the product of any one of many etiological factors, and, looking on a deep tear of the cervix as on any other wound, it is very irrational to deny that, theoretically, by opening the lymph channels to the invasion of pathogenetic germs, as suggested by Noeggerath himself, it should not occasionally cause inflammatory processes in the adjacent and very vulnerable cellular tissue, which inflammatory condition would necessarily be rendered more or less chronic by the continuing irritation of the unhealed cervix. In practice, we find that this very condition does occur and not rarely accompanies a deep cervical tear, the induration running out into the broad ligaments on one or both sides from the angles of the rent and only disappearing after its closure. A long-standing parametritis may, as in one of the doubted cases, lead to a partial atrophy of the affected tissues.

Oöphoritis and salpingitis I do not think are ever the direct result of a cervical tear, but I believe that the congestive changes which follow in the uterus tend to cause a similar long-

continued congestion in the appendages which renders them more sensitive to any disturbing influence and more liable to become affected by the extension of inflammatory processes from the uterine mucosa.

The advent of various neuroses subsequent to the formation of a cicatricial mass in the cervix and their prompt disappearance after its excision have been often noted. The absolute demonstration that, in these cases, the *post hoc* is in reality the *propter hoc* is difficult, but the clinical evidence<sup>1</sup> proving the causative influence is conclusive enough to satisfy any reasonable man, even without the presumption afforded by analogous reflex affections.

General and persistent anemia with somewhat gloomy mental condition, dating from a time subsequent to the occurrence of the tear, was present in several of Mundé's cases, and could only be cured by removal of the densely cicatrized tissues and closure of the laceration, after which the return to perfect health was rapid. In another case, pressure on the cicatrized angle of the tear threw the patient at once into a cataleptiform condition, and in a third the same manœuvre produced at once deep sleep. Both of these patients were cured by Emmet's operation for the closure of the tear.

Puerperal insanity, which has been claimed as an occasional result, I do not believe to have any etiological connection with cervical laceration, but to be induced by the same cause which would render a tear probable, a difficult and exhausting labor.

Noeggerath's last conclusions, that lacerations are only of importance immediately after labor and that they will soon be stricken from the list of pathological affections of the uterus, need hardly be considered. *That there are positive indications for restoring the torn cervix to its normal condition and form must be admitted by every candid and unprejudiced observer.* A plastic operation is, by a cardinal rule of surgery, always to be preferred, when equally effective, to one of mutilation. Emmet's operation restores the parts, as nearly as human skill can, to their ante-partum condition. Amputation, advised by most German authorities and by Noeggerath, causes irreparable loss of tissue and often merely substitutes one pathological surface for another, as in a case witnessed by Mundé, where

<sup>1</sup> See Emmet's "Gynecology," Ed. of 1884, pp. 486 to 496; and Engelmann, Trans. of Amer. Gyn. Soc., 1887.



Noeggerath himself had amputated, leaving six months after a raw, easily bleeding, vegetating surface, which necessitated a second and plastic operation for its cure. Some of the methods of amputation, however, are in reality skilful resections which, practically, are but modifications of the procedure of Emmet.

While, undoubtedly, the importance of cervical laceration as a factor in the causation of uterine and systemic disease has been somewhat exaggerated, there still remains a substantial basis of proven facts and indubitable clinical evidence to show that the profession in America have not erred in considering the condition one of considerable pathological value, and the operation for its relief logical and beneficent.

---

#### TREATMENT OF FIBROID TUMORS BY ELECTRICITY.

---

BY

A. VICTORIA SCOTT, A.M., M.D.,

Philadelphia, Pa.

---

SINCE first entering upon the practice of medicine, the clinical use of electricity has been, with me, a subject of constant study and of daily experiment. One of my earlier observations was that uterine fibroid tumors always seemed smaller and softer after an application than before. I was surprised to hear this phenomenon attributed to absorption of the products of inflammation deposited around the tumors, and a claim was made that the tumor proper was in no way affected. Electricity was, however, admitted to be the active agent in promoting this absorption. I tried, in accordance with the teaching of science, to believe this explanation to be correct; in other words, to shut my eyes to the evidence before me, but failed, because of the fact that, by actual measurement, the tumors themselves did grow smaller. But so much was said by members of the medical profession in disparagement of the treatment, and the non-reliability of those advocating it, that I worked patiently and in silence, unless drawn into conversation with professional friends, when I stated to them the wonderful changes due to its use. They, too, have but too often

showed a disposition to question the evidence of the results attained. This has led me to keep an accurate account of certain cases, with the intention of eventually reporting a few of them. In the mean time, the experiments of other operators have brought the methods of its clinical use to greater perfection, and their claims of wonderful success have, it is to be hoped, induced all unprejudiced practitioners to acknowledge its superiority over other remedial agents in the treatment of certain diseased conditions. Nothing has so held the surgeon's knife in abeyance, when a case of uterine fibroid tumor was under consideration, as has the voice of Apostoli, and that of other patient, hard-working experimenters in electricity. The time has come when many in the profession are ready to severely criticise the surgeon who dares to remove either the ovaries or uterus for the relief of this trouble, and it may be, in the near future, that such an operation will be considered as one of malpractice, and the operator punished accordingly.

No one is capable of deciding what is the best method of treatment. This will, in all probability, always vary somewhat with each individual case. The fact that so many specific directions have been given by Apostoli, Mundé, Cutter, and others, all differing in many particulars, yet, in the main, securing the same good results, only goes to prove the utility of the agent, no matter how applied, provided that the current shall enter the tumor. It also gives room for the prediction that a better method than any yet known may be devised by some patient, persevering worker. Some operators introduce two needles into a tumor, others one needle; some reverse the current, others do not; some administer ether, others operate without it. There are reports of tumors having been cured, or at least so relieved as to be symptomatically cured, where galvano-puncture has not been used. This was the old plan of treatment, but is a very slow method, requiring long applications, repeated two or three times weekly, and continued for months, if not years. Many, both patients and physicians, become weary of this plan because it does not yield quick brilliant results; yet there are patients who will submit to being treated in no other way.

Believing that the physician ought to use every known best remedy, rather than experiment with one alone, the use of Squibb's fluid extract of ergot has been included in

the treatment. The diet has always been the most nutritious that could possibly be assimilated. f

CASE I.—Miss A., æt. 36 years, American, light mulatto, seamstress. Menstruation first appeared in her fourteenth year, was regular and painless until about ten years ago, when she noticed an unusual fullness in the pelvis at the time of menstrual flow, and also began to be troubled with frequent micturition, as well as increase in the quantity of discharge and prolongation of the time of the catamenia. These symptoms gradually increased in severity until October, 1876, when she gave up work on account of sore bearing-down pain, and almost constant micturition. Her statement was that she was obliged to void the urine every two or three minutes, day and night, and her worn, wearied, haggard appearance plainly showed the need of proper rest. After spending one year under treatment at the various clinics of this city without relief, she presented herself at my office, October 1st, 1877. A vaginal and bimanual examination revealed an enlarged, hardened, nodular uterus. The hardness was most perceptible through the rectum. The uterine canal measured five inches in depth. The urine was normal, and the conclusion was that the frequent micturition was caused by the pressure made by the tumors over the bladder. It was impossible to raise the enlarged uterus out of the cavity of the pelvis.

*Diagnosis.*—The uterus was a mass of interstitial and sub-peritoneal fibroid tumors.

*Treatment.*—Galvanism was applied for forty minutes, twice weekly; the positive pole over the pubes, and the negative in the rear of the tumors; sometimes in the vagina, at others, in the rectum or on the back. Ergot and tonics were given.

December 4th.—Is still awakened by pain at night, but not distressing pain that keeps her awake; can sleep about two hours without urinating.

January 2d, 1878.—The uterine canal measured three and one-fourth inches. Menstrual flow painless and much less profuse than usual, and there had been no depression of spirits while it was present. The uterus felt smaller and more movable. Not long before this there had appeared in the *New York Medical Journal* an article by Dr. Cutter advocating the galvano-puncture of these tumors.

January 8th.—The insulated needle was inserted for five minutes with the negative pole in the tumor.

January 18th.—As the patient was better in every way, the needle was again inserted for thirteen minutes, to the depth of about one-half inch.

February 6th.—The uterus was swollen around the site of the puncture, and more tender than usual. The menstrual period had lasted only two days. The full feeling in the pelvis, and constant bearing down, was much worse.

March 1st.—Felt much better, but was unwilling to permit further galvano-puncture of the tumors.

Sept. 1st.—She was much improved and able to work nearly all day, but was very anxious to be operated on because she knew the tumors were there. I sent her to the Woman's Hospital of this city, where she remained for several weeks, but an operation was not thought expedient. On leaving there, she returned, stating that electricity gave her most relief, resumed her work, came for an occasional treatment until December, 1885.

Jan. 24th, 1886.—A cousin of the patient called to tell me that she had been operated on in the University Hospital of this city, and died thirty-six hours afterwards.

*Remarks.*—I, perhaps, am as much to blame for this result as was the patient, in that it was my first case of puncture, and was not done with proper antiseptic precautions; also, in making the second puncture, the needle was introduced too deeply, perhaps one-half inch, and set up some inflammation. This dampened my own confidence in the treatment, and I had not the courage to urge its repetition. The patient felt worse for about two weeks, and attributed it to the puncture; although the after-result was good, she felt afraid to have the needle used again. In the light of present knowledge, the case would have been treated with electricity externally until the inflammation had subsided, and then punctured again, and this repeated as many times as was necessary, until, in the end, the patient would probably never have fallen a victim to the surgeon's knife.

CASE II.—Miss B., æt. 34, American, white, engaged in teaching, began to menstruate in her fifteenth year. First noticed swelling, profuse menstrual flow, and pain in June, 1879. Called at my office Aug 30th, 1879. She was a slender, delicate woman, of less than medium size, very anemic, bowels constipated. While standing, the abdomen seemed the size of that of a woman six months pregnant. Palpation revealed a hard tumor seemingly within the uterus and extending to the umbilicus. Vaginal and bimanual examination showed a hard vaginal os, and a large, hard body within the uterus. The sound could not be introduced.

*Diagnosis.*—Large submucous intrauterine fibroid.

*Treatment.*—As the general condition of the patient was very much below par, only ten drops of Squibb's fluid extract of ergot were borne after meals. Tonics were given, as well as the most nutritious diet. As she could come to my office only on Saturdays, the faradic battery was used once a week until December, 1881, *i. e.*, for one year and four months, when the uterus had returned to its normal size. This fact was easily determined on account of the thin abdominal walls, and its cavity measured two-

and one-half inches in depth; neither was there any nodular condition to be felt through the vagina or rectum.

Another fibroid was diagnosticated in this same patient by a homeopathic physician in September, 1884, nearly three years after I had discharged her as cured. First one, and then another physician of this school had treated her until May 1st, 1886. Meantime the patient was gradually growing worse. At this date I received a letter, stating that "she had been in bed, flat on her back, for three months," and asking if "I would take an old patient back," explaining that "she never would have left me, only her people were homeopathic, and she knew that I would give her ergot, and she had been told that so much ergot would injure her kidneys." I replied that I would rather have an old patient return, especially after she had been consulting so many other physicians, than to receive a new one, as I considered it the highest compliment that could be paid one in my profession. On seeing her I found that "she was ready to take anything and do anything to get out of that bed." This time there had been no hemorrhage, but general weakness and great pain in her back and side, so that she could not walk, also pain at periods. Bimanual examination revealed the uterus badly retroflexed, and a fibroid tumor, about the size of a walnut, protruding posteriorly from the fundus. The uterus was quite sensitive to the touch.

*Diagnosis.*—Subperitoneal fibroid.

*Treatment.*—Tonics, ergot, massage, and faradic electricity every alternate day, and daily gymnastics. The tenderness was so much relieved after the second treatment that a retroversion pessary was introduced on trial. In three weeks she was back in her school-room, and by the last of August the tumor had entirely disappeared, and the pessary been removed, *i. e.*, after four months' treatment, once a week, as soon as she was able to come to my office. Sometimes the galvanic current was applied, and sometimes the faradic, usually one pole in the vagina, posterior to the tumor, and the other over the abdomen. There was no puncture made in treating either tumor. The patient desires to be kept under treatment until after the menopause, and, of her own accord, visits my office weekly. She is in good health, has painless monthly flow, and no return of hemorrhage or tumors at the present time.

CASE III.—Miss C., æt. 26, American, white, a lady of wealth. She had been under treatment, twice weekly, at the office of one of Philadelphia's most celebrated gynecologists for six months, and obtaining no relief first consulted me in November, 1880. There was pain in the back; a bearing down in the pelvis, dysmenorrhea, and an inability to stand for any length of time or walk any distance. No hemorrhage. A vaginal examination revealed a retroflexed uterus, with a thickening of its posterior wall, from which a nodule, the size of an American walnut, protruded.

*Diagnosis.*—Subperitoneal fibroid.

*Treatment.*—Similar to that of Case II., only the galvanic battery was used, and she was treated twice weekly. Relief of symptoms was experienced after the first treatment. She was discharged well, July 1st, 1881, *i. e.*, after eight months. Her sister called on me in February of this year, and reported her as remaining so well that she had not since needed a physician.

CASE IV.—Mrs. D., æt. 34, American, colored, sterile, sent for me February 3d, 1880. She was very anemic, and had been confined to her bed most of the time for three years, with constant hemorrhage and pain. During this time her physician, not believing in electricity, had tried other remedies, and his patient sent for me only after he had told her that he could do nothing more. On examination, I found a hardened, knobby condition of the uterus, with a hard vaginal os uteri, and the uterine body enlarged, and containing a hard growth, the size of a large orange. The sound could not be introduced. The uterine mass filled the cavity of the pelvis.

*Diagnosis.*—One large submucous fibroid, with numerous smaller interstitial and subperitoneal fibroids.

*Treatment.*—I thought by dilating with tents and giving ergot to get rid of the submucous tumor. One tent was introduced, but as the patient's temperature ran up to 102° F. on the next day, I thought discretion was "the better part of valor" and removed it, and then gave ergot one-half teaspoonful every three hours. This caused bearing-down pain, but the tumor remained in *statu quo*.

February 6th. As the ergot caused nausea and was not expelling the tumor, the dose was reduced to ten drops three times a day.

February 10th. Temperature normal. From this time galvanism was used twice weekly, one pole applied in the vagina behind the tumors, and the other over the abdomen, poles were reversed about every five minutes. Treatments lasted from fifteen to forty-five minutes. In three weeks she rode to my office. In two months, she went out doing day's work. In this case, the tumors gradually diminished in size so as to give her no trouble, and after six months' treatment she discharged herself, as she was very busy going out and taking in work, assuring me that I would see her if there was any more trouble. Last April, she called about a bad cold, had been able to attend to her work ever since, and although the size of the tumors had greatly decreased, some of them were still there. She was unwilling to have anything more done, as there were no troublesome symptoms present.

CASE V.—Mrs. E., æt. 39, American, white, sterile. Suffered with dysmenorrhea, gradually increasing in severity, constant backache, flow growing more frequent and profuse until it lasted fourteen days, very weak and anemic.

January 1st, 1886. A vaginal examination revealed an enlarged hardened uterus, one fibroid tumor about two inches in diameter, and three smaller ones about one-half inch in diameter, on its



posterior surface. On attempting to pass the sound intra utero, it encountered another fibroid about three-fourths of an inch in diameter, in the posterior part of the cervical canal. The sound entered three inches, turning towards the rectum.

*Diagnosis.*—Retroversion, three subperitoneal fibroids on the posterior wall of the uterus, and one submucous in the cervical canal, and, on account of the enlarged hardened condition of the organ, perhaps also several intramural fibroids in an incipient state.

*Treatment.*—Squibb's fluid extract of ergot and tonics. The large tumor was pierced to the depth of one-half inch, and the negative current of the galvanic battery applied within the tumor for twenty minutes, the positive pole was attached to a sponge over the abdomen. As strong a current was used as was bearable to the patient. She rested for one hour, then rode about four miles home.

January 5th. As there was some tenderness spreading from the site of the puncture, a sponge, to which was attached the negative pole, was introduced per vaginam, posterior to the subperitoneal tumors, and the positive to a sponge over the abdomen. Treatment was borne for one-half hour.

January 8th. All backache had disappeared, and the patient thought further treatment unnecessary. I explained that she was only better, not well and insisted on continuing treatment, to which she assented. This time the platinum sound was passed around the cervical tumor, and the large posterior tumor pierced. Galvanism was applied fifteen minutes, reversing the poles two or three times. Patient rested an hour before going home.

January 17th. A painless menstrual period has passed. The flow lasted six days, was darker in color, and very much less in quantity than usual. The large tumor was pierced, and the other electrode passed around the cervical tumor. Treatment lasted twenty minutes, the poles were reversed as before.

January 21st. Three weeks after the first treatment, the large fibroid was found divided into three smaller ones, giving me the impression that this large tumor had been originally composed of smaller ones. As all the tumors now seemed small and rapidly getting smaller, the use of the needle, in this case, was abandoned.

April 1st, 1886. Galvanism has been used twice weekly to date, intrauterine when there was no tenderness of that organ, and applied in the vagina and over the abdomen at other times. The tumors were very much reduced in size. Periods were painless, normal as to time of appearance and amount of discharge, and the general health was wonderfully improved. She now informed me that "herself and husband had decided that it was foolish for her to undergo further treatment, when she felt perfectly well," and insisted on returning to her home in Baltimore, promising to return if necessary, since which time I have heard nothing of the case.

CASE VI.—Mrs. F., æt. 25, American, mulatto, married at the age of twenty, and nine months after had a six months' miscarriage, no other pregnancy. Began to menstruate in her fifteenth year, was always regular, and had no pain until one year ago, when the flow began to be more profuse, and accompanied with pain which was gradually increasing in severity. For the past six months the flow had been very profuse, sometimes lasting two weeks.

January 14th, 1886. A vaginal and bimanual examination revealed the existence of a fibroid about the size of a hen's egg, lying longitudinally with its centre at the junction of the internal os with the body of the uterus, and on the posterior wall of that organ. Upon attempting to introduce a sound into the cervix, I found that, when one inch from the external os, it struck another fibroid about the size of a walnut. By curving the instrument to accommodate it to the crooked canal, I succeeded in passing it laterally to the left, three and one-half inches, making the depth of the uterine cavity one inch beyond normal.

*Diagnosis.*—A subperitoneal fibroid on the posterior uterine wall, also a submucous fibroid in the posterior part of the cervical canal.

*Treatment.*—The subperitoneal tumor was pierced to the depth of three-fourths of an inch, and the negative pole of the constant current applied within for five minutes. I was able to use only six cells of a Fleming battery on account of the pain caused by the treatment. The positive pole was applied to a large sponge over the abdomen. On reversing the poles for the next five minutes, I was able to use eighteen cells. Changing, so that the negative again entered the tumor, during the next five minutes I gradually ran up to twelve cells, when the battery was removed and the patient allowed to rest for an hour before returning home.

January 16th, 7 A.M.—Patient sent word for me to come in great haste. I found some swelling around the site of the puncture, but as there was no increase of temperature, and approaching symptoms of menstruation were present, I ordered hot vaginal injections, opium suppositories, and rest.

January 17th.—A messenger called and stated that she was better.

January 30th.—There was a depression in the tumor, three-fourths of an inch in depth, around the site of the puncture, and large enough to contain the end of the thumb. The negative pole of the constant current was applied around the tumor in the cervix, but as the uterus was tender to the touch, neither tumor was pierced.

February 16th.—The subperitoneal tumor was found divided into two parts, one the size of a walnut, and the other that of a large bean. Electricity was applied intrauterine with the platinum sound, and over the back on a sponge.

March 3d.—The larger subperitoneal tumor was punctured,

and the negative current applied within, for fifteen minutes. After which she was treated twice weekly with one pole in the cervix, and the other attached to a sponge in the vagina, in the rear of the subperitoneal tumors, until April 15th, when no tumors could be found, and she was discharged well, as far as could be ascertained by touch, symptoms, and the use of the sound. The uterine canal was normal in depth, the patient was relieved of all backache, dysmenorrhea, and hemorrhage. She was cautioned to return if there was any trouble. I met her on the street in August, 1886, when she reported herself perfectly well.

CASE VII.—Mrs. G., æt. 28, American of Irish descent, mother of two children. This woman had many ailments, and had suffered many things at the hands of many physicians. In September, 1883, a cystic tumor was removed from the vagina, in the Woman's Hospital of this city. In August, 1884, a perineal operation was performed in Bethlehem Hospital. In December, 1885, she returned to the Woman's Hospital for uterine inflammation, and remained there for five weeks, then visited the clinic for local treatment, until she called at my office, February 16th, 1886. Her back was one succession of scars, caused by blisters, cups, setons, hot irons, and every other method of torture legalized for the use of physicians. I beg to be excused from detailing the pains and aches, and their causes, for the relief of which such barbarous means were used. It is sufficient to say that none of these tortures had given her permanent relief, as did, afterwards, the application of galvanism to the spine.

A vaginal examination revealed a fibroid about the size of an English walnut, situated with its one-third on the cervix, and two-thirds on the body of the uterus, posteriorly. That organ was retroverted, and its canal measured four inches in depth.

*Diagnosis.*—Subperitoneal fibroid.

*Treatment.*—Galvanism twice weekly, tonics and ergot.

March 6th, 1886. The patient informed me that, when she was in Bethlehem Hospital, the physicians told her that another operation for the removal of a tumor was necessary, and explained to her that it was dangerous. So she decided not to have it done. She questioned, "are you removing this same tumor, and you tell me there is no danger?" I could only explain that I had already pierced the tumor twice, and that it was rapidly going away, and, as she knew, the treatment gave very little pain at the time and no after-discomfort, but rather relief.

April 4th. The tumor had been pierced, and the negative current applied within three times, and the growth had nearly disappeared, after only two and two-thirds months' treatment.

November 1st, 1886. While the patient was at my office, a medical friend accidentally called, and as a matter of interest I related the patient's history, and asked her to examine for the fibroid. Her verdict was that there is no fibroid there now.

Very much has been said of late about exact dosage of elec-

tricity, but the truth is that the physicians who recommend this so strenuously do not practise it. Dr. Apostoli said before the British Medical Association at Dublin, August 2d to 5th, 1887, page 2 of his article, "that it was applied formerly in a vague and variable manner. The current was set in motion, in ignorance of its intensity, and with imperfect knowledge of the best means of employing it." On the next page, he says: "I have progressively carried, according to the necessities of my cases, from fifty to one hundred and fifty and two hundred and fifty milliamperes. . . . In fact, I apply to the diseased uterus a continuous galvanic current of an intensity and duration sufficient to produce the therapeutic effect required." Page 12, he says: "The too violent or too intense use of the negative pole in cases of subacute peritoneal inflammations is an error." "The fact is that the negative pole, having a strong power of producing congestion, is a dangerous weapon, which, at the beginning of any treatment, must be brought to bear with great prudence and reserve, if one would avoid overshooting the mark for which it was intended."

In the *AMERICAN JOURNAL OF OBSTETRICS* for February, 1887, page 418, Dr. Cutter says: "The length of time was from three to fifteen minutes, adjudged according to the systemic symptoms. If the pulse became accelerated, the respiration hurried, the face pinched, the countenance hippocratic, and the skin sweaty and cold, it was thought time to stop. The first operation should be short, and, if well borne, the time may be increased in future operations."

I make these quotations simply to show that the dose of electricity is as variable as that of quinine, morphia, and other drugs. No one would think of giving the same dose of any medicine, whose effect is well known, to every patient under similar circumstances, regardless of the impression produced on the individual. Exact dosage can never mean anything other than that the electrician is able to measure, by means of a galvanometer, the amount given in any particular case, and this amount must be graduated to suit the conditions and symptoms of the patient. I have observed that weak, nervous women nearing a menstrual period are sometimes unable to bear an ordinary amount of galvanism. One such case fainted in my office last spring upon the application down the spine of a current from six cells for three minutes, although, at other times,

she had borne enough to redden her back well. The next patient was treated with the current from twenty cells of the same battery without experiencing any difficulty.

I do not wish to be understood as saying that all bad cases of fibroids are perfectly cured by the use of electricity. But I will say that the symptoms of pain and hemorrhage cease, that the general health is improved, and that in all cases that I have treated for a period of two months or longer there has been a sensible diminution in the size of the tumors. But it is not difficult to understand that, in cases of calcareous degeneration, the use of electricity would only result in disappointment, as far as the reduction of the size of the growth proper is concerned; yet, allowing this to be true, the patient might be symptomatically relieved.

In developing the methods of treating fibroids by galvanopuncture, different operators have lost cases. This was unnecessary, and due to the too heroic treatment employed. All evil results can be obviated in the future by proper antisepsis and cautious judgment on the part of the operator. I have reported in this paper but one case, and that my first, which is the only one that has ever given me any anxiety after puncture. None have had symptoms more severe than slight soreness.

Apostoli,<sup>1</sup> in 389 galvanopunctures lost only two patients, and this he considers avoidable. He says: "Of these deaths I take upon myself the entire responsibility. My method was not at fault. I only was to blame." On the last page of his paper he says: "I may also predict that, if [galvano-puncture is] adopted in its integrity, and worked as it ought to be, the mortality will henceforward be nothing." And goes on to say that "I cannot, however, omit to report a fact which gives occasion for melancholy comparison. Among the patients who had not the will to let me finish what I had begun, and whose impatience led them voluntarily to seek the removal of their tumors by excision, seven put themselves into the hands of six of our most eminent surgeons, and not one of the seven recovered from the operation."

It is interesting, also, to glance at some of the general surgical stasies, where the various operations devised for the removal of the ovaries, uterus, or tumors have been

<sup>1</sup> Address before British Med. Ass'n., July, 1887.

performed. Prior to 1878, the death rate was much higher than since that time. This is owing to the introduction and general adoption of antiseptic methods, which have made a favorable change as regards the value of laparotomy in myoma of the uterus. The following statistics, collected since 1878, are taken from the "Cyclopedia of Obstetrics and Gynecology."<sup>1</sup> The author, A. Gusserow, "since 1881, has collected a number of cases of spaying, fifty-seven in all, including twenty-one reported by Hegar. Of this number, ten died, forty were very much benefited, and in seven cases no improvement resulted. It appears from this computation that the mortality was 7.5 per cent.

"Wiedow has collected a large number of cases. He found records of one hundred and forty-nine operations for fibroids, and fifteen of the number had a fatal result. This is equivalent to a mortality of about ten per cent.

"At the present time, therefore, the following may be said concerning the value of spaying for uterine fibroids.

"The operation leads with great certainty to an arrest of hemorrhages, provided the uterine tumors are not too large, and not in a condition of cystic degeneration.

"It is a much safer operation than extirpation by laparotomy. The mortality of castration has been reduced to about ten per cent. That of radical extirpation (of the tumors) to about thirty per cent.

"On the other hand, those who recover from the operation of castration still carry with them their uterine tumors, the presence of which entails manifold dangers. Again, a not insignificant proportion of those operated upon continue to have the same pains and other symptoms due to the presence of fibroids as before spaying.

"Those who survive extirpations of the fibroids are permanently cured."

The statistics concerning amputations or extirpations of the uterus show a still greater mortality. Most of these operations were undertaken on account of an error in diagnosis occasioned by the development of fibroids at the fundus, and consequent inversion of the uterus. A list is given of twenty operations performed according to different methods by various operators. Of these, eleven recovered, and nine were fatal.

<sup>1</sup> Vol. ix., Chap. vi., "The Treatment of Uterine Fibroids."



When we consider that fibroid tumors of the uterus, if let alone, are almost never fatal, the mere diagnosis of a fibroid of the uterus, even if there is severe hemorrhage in the case, ought not to be equivalent to an indication for an operation.

With these facts before us comments on the relative value of surgical and electrical treatment of fibroid tumors of the uterus are unnecessary.

---

### THE TREATMENT OF THE AFTER-COMING HEAD.<sup>1</sup>

---

BY

PHILIP M. SCHIEDT, M.D.,

Philadelphia.

---

THIS is a subject of such great importance that every practitioner should be well posted as to the proper line of treatment. Unlike other branches of medicine, the nature of the case which falls into the hands of the obstetrician is, to a great extent, a matter of chance, and he cannot feel sure that the very next case which he may be called upon to attend will not be one involving that most serious of all difficulties, the fixation of an after-coming head in the pelvis. While the danger to the mother is not great, the life of the child in this position is every moment in jeopardy, and one or two minutes, or, perhaps, even a few seconds, will often decide the question of life or death. TIME is the great factor in these cases. It is generally conceded by all authorities that, if after the delivery of the body, the head does not follow within a period of from five to eight minutes at the utmost, the child will be either still-born or deeply asphyxiated. In a few rare instances on record, the child has lived after being fixed for fifteen minutes in the pelvis; but these cases are exceptions which in no way affect the rule. A careful review of the literature of this subject exhibits a wonderful indifference on the part of our modern English and American writers, an indifference the more re-

<sup>1</sup> Read before the Philadelphia Obstetrical Society, November 4th, 1867.

markable in view of its great importance. Some of the most recent writers neglect to give any specific directions whatever, while others accord it but a brief mention. Playfair does not devote ten lines to the treatment of the after-coming head. It is to the Germans that we owe most of what we now know upon this subject.

From the days of Celsus until the middle of the sixteenth century, a uniform mode of treatment prevailed, known as "*expression*." By this method, pressure was made upon the abdomen of the mother, so as to influence directly the head of the child, and, in case this simple method failed, decapitation, craniotomy, and evisceration were resorted to. The result of such a mode of treatment was that, in cases presenting any difficulty, but few living children were born, the mortality being almost one hundred per cent. Later in the sixteenth century, other methods began to come into use, and from that time until the present we find the names of Mauriceau-Levret, Smellie-Veit, Braun, the Prague handgriff, and others. All of these individual methods, carefully described and extensively practised, have many adherents even at the present day, when, lastly, *the forceps* have been added to the treatment of the after-coming head.

Within the past forty years, the German schools of obstetrics have been much divided in their views upon this subject, arguing, sometimes even with bitterness, the relative merits of the various methods, and the propriety of the use of the forceps, though they have been recommended by a great number of obstetricians from the beginning of the sixteenth century.

Levret, Smellie, Oslander, Stein, Deventer, D'Outrepont, Baudelocque, Charpentier, Chapman, Bush, Velpeau, Riggby, Kilian, Birnbaum, Walter, Kornman, Freudenberg, Ruge, Credé, Litzmann, Fisher, Meigs, Barnes, Lusk, Playfair, Goodell, and Parvin advocate their general use, while Zweifel and Winter would employ them only in extreme cases.

The Prague method has been generally attributed to Kiewisch, but Puzos, who died in 1573, described this method in full, and the whole merit of Kiewisch lies in the fact that he re-introduced it in 1846, after it had lapsed from obstetric literature for more than two hundred and fifty years. This manual method is conducted as follows: "Place the index and middle fingers of the left hand fork-fashioned upon the nape of the child's

neck, with the other hand grasping the lower extremities. The left hand then makes downward traction, and the right hand simultaneously makes traction upon the trunk of the child, elevating the feet as it is delivered in the arc of a circle, which comes finally to rest upon the abdomen of the mother."

Carl Braun, in 1857, modified this method in the following manner: The accoucheur stands to the left of the woman, and, placing his right hand upon the mons veneris, the thumb and index of this hand are hooked over the shoulders from above, while the index finger of the left hand is introduced within the vagina, grasping with the finger tips the lower jaw. Continued traction is then made with both hands until the head is brought down to the floor of the pelvis. The left hand is removed and grasps the feet, which are carried in the arc of a circle on to the abdomen. This procedure is in reality a combination of Mauriceau's and the Prague method.

Seanzoni has further modified the Prague handgriff as follows: The index and middle fingers are placed over the nape of the child's neck, while the other hand grasps the feet. Traction is made upon the neck downwards and forwards while carrying the feet upwards in a circle on to the abdomen of the mother. The first application, however, of traction upon the chin of the child was made by Mauriceau in his treatise in 1668, and this may be described as the third distinct traction method in opposition to the Prague handgriff and simple expression. He says: "All precaution should be taken to avoid the detention of the head of the fetus within the mouth of the womb after the delivery of the body. Nevertheless, should this accident arise, we must not lose time in attempting to extract the fetus by the shoulders alone, for sometimes the neck would be first torn from the head, and entirely separated before the fetus could thus be delivered; but while another assistant, holding the feet in his hands and the thighs above the knee, draws with moderation upon the body, the surgeon will gently free the head, and remove it from the bony parts; and this is accomplished generally by introducing *one or two fingers of the left hand within the mouth of the fetus, that he may first free the chin* from every hindrance; but with the right hand he grasps the neck above the shoulder-blades, and in such a manner draws it down and brings it forth, helping himself with the fingers of the left hand, introduced in the mouth of the fetus, free-

ing its chin, as mentioned above, for it is this part which is mostly engaged in the uterus from which it is impossible to deliver until the chin is entirely set free, giving close attention to the fact to complete the business as quick as possible, lest the fetus strangulate." After Mauriceau, Portal, in 1685, seventeen years later, described this method without mentioning its author. Levret, in his book, 1751, described the same method without giving credit to Mauriceau. His directions are to place one or two fingers in the mouth of the child to extract by the chin, and also with the palm of the other hand to make traction on the shoulders. The neck is grasped between the index and middle finger, the thumb and middle finger in the axilla, and remaining fingers on the opposite side in the other axilla.

Smellie, in 1756, used Mauriceau's method in general, but at times used Deventer's modification, but he nowhere mentions Mauriceau as the author. He says: "If the child is not large, the arms need not be brought down, and the head may be delivered by pressing back the shoulders and body of the child to the perineum, and, whilst the chin and face are within the vagina, to bring the occiput out from below the pubes, according to Deventer's method. Or the operator may introduce a finger or two into the mouth or on each side of the nose, and, supporting the body on the same arm, fix two fingers of the other hand over the shoulders on each side of the child's neck, and in this manner raise the body over the pubes, and bring the face and forehead out with a semicircular turn upwards from the under part of the os externum." We see that this description certainly does not add anything new to Mauriceau's, excepting that he places his fingers in the mouth or higher up in the fossa canina. Thus history gives him more credit than his description warrants.

John von Hoon, in 1715, recommended Mauriceau's method, but never mentioned the author. In 1854, Veit re-introduced this method under the name Smellie-Veit. During all the preceding time, this method scarcely ever was practised.

Deventer's modification was only to use the opposite hand, corresponding to the presentation of the child, by introducing the left-hand fingers in the mouth if presentation was to the right, and then made traction on the trunk and body, as in the Prague method. D'Outrepont's modification was that he

grasped the nape of the child between *index and ring finger*. Geo. Wm. Stein, Sr., in 1793, made a modification of Mauriceau-Levret-Smellie, which was as follows: After having displaced the arms, he recommended simultaneously to apply the force both to trunk and head. He then placed the middle finger against the occiput, and with *index and ring finger* grasped the nape of the child, and rested the arm on the shoulders, so that *thumb and little finger* were placed in the axilla, and at the same time introduced the fingers of the other hand in the mouth, but occasionally placed them at both sides of the nose on the upper maxilla, and the middle finger he placed upwardly on the dorsum of the nose. This modification, however, has never come into general practice, as none of the modern authors refer to it except Litzmann. We have one more modification, attributed to Vogel, which on account of its danger, never went further than its author. His method was to introduce his fingers higher up in the cavity of the orbits, and thus make traction on the upper maxilla.

*Objections.*—The objections that have been made from time to time against the different methods are quite numerous, and the injuries resulting therefrom gave impulse to the application of the forceps. Against the Prague method, Spiegelberg urges that it is barbarous and unphysiological in its application, because the force of traction is expended on the vertebræ alone, and more especially upon the cervical vertebræ. This is opposed to the normal mechanism, for the head is carried away from the breast and the vertebral column is greatly jeopardized; dislocation of the atlas has occurred and the head even has been torn away from the trunk, leaving the head in utero. Against Braun's modification it has been urged that lacerations of the cervical vertebral ligaments and articulations have occurred.

Against the Mauriceau-Smellie method and its various modifications it may be said they very often fail, the fingers of the operator become paralyzed, so that traction cannot be made even for the short period of eight minutes. Schauta says that to use Smellie's, or rather Mauriceau's method, we must have the head well down in the pelvis, and rotated, have good bearing-down pains, with a spacious and dilatable vulva; but such cases are rare, and nature seldom needs any supplementary help. Barnes says it is perfectly useless to make

traction on the head by the finger in the mouth or on the upper maxilla. When the head is high up, it cannot be reached by this method. This is against the normal mechanism, for no normal rotation can be made. The chin is carried away from the breast on account of the slipperiness of the parts. By these methods it is almost an impossibility to flex the oblique head when it becomes fixed. We may have dislocations of the symphysis of lower jaw, fractures of the mandibles, large lacerations of the mucous membrane and the muscle of the genio-glossus, as mentioned by Ruge. Even dislocations of the lower jaw have taken place, and torsion of the neck has occurred. Oslander says traction on the maxilla or on the trunk should be allowed only when everything else has been tried, forceps not excepted.

*Schroeder says no living child can be born where the forceps are used. Schauta says we might as well banish the forceps from our operative treatment, after the manual methods have failed, and resort at once to craniotomy.* Madame La Chapelle places the mortality of all children in breech presentations at 14.3%, Dubois at 9%, Christian Bell 22%. Credé had sixteen forceps cases, of these eight were normal and eight narrow pelvis; yet he saved twelve out of sixteen.

Litzmann had 4 forceps cases and had 3 living children. Hoffman had 31 head-first cases with the forceps, 19 living and 12 dead; but in 20 cases where *version* preceded, he had 13 living and 7 dead. No maternal mortality in the last class of cases. Freudenberg had 12 forceps cases; 7 living, 4 dead at birth, and 1 totally decomposed, and no mortality among the mothers. Koruman's percentage with forceps was, living 3 out of 4 cases.

The indications for the application of the forceps to the after-coming head are as follows: In all pelvis, where the diameters are below their normal measurements. When the head is in an immovable position with chin fixed over the symphysis pubis. When the head is at the superior strait with chin to the front. When the head is locked at the pubis, but where flexion is imperfect and fixation of the frontal part of vertex is the result. When the face is fixed anteriorly with chin locked. When the face is fixed laterally. In transverse and oblique positions of head. Where the head is laterally rotated and deeply fixed in the pelvis. In great narrowness and rigidity of the soft parts where the hand cannot be introduced,



or where the fingers soon become exhausted on account of the constriction. In too large heads, as hydrocephalus. In placenta previa, eclampsia, and metrorrhagia. When the extractive methods have been tried and prove insufficient. When the fetus is dead. When the head has been torn from its trunk.

*Summary.*—It is my belief that head-last cases are best treated by a judicious use of the forceps, many serious dangers being thus avoided. The most vigorous supporters of the manual method declare that it requires from five to six minutes to extract the child's head; while Freudenberg and others say that the forceps should be applied and the head extracted in from two to three minutes. It is manifest that this difference in time, at a moment so critical, will result in the saving of many children. Time is the great factor, and by the forceps time is saved. Barnes says: "*Horæ momento cita mors venit, aut victor ria læta.*"

This brief review of the subject has then demonstrated the following interesting facts:

1st. The method of expression was employed from the time of Celsus until 1573.

2d. The Prague handgriff was first described by Puzos in 1573, re-introduced by Kiewisch in 1846, and subsequently modified by C. Braun in 1857 and Scanzoni in 1864. Mauriceau first described his own method in 1668. The modifications of Portal, Smellie, and Veit do not justify the claims so often made for them. Deventer, D'Outrepont, Geo. W. Stein, Sr., in 1793, and Vogler made modifications which scarcely outlived their authors.

3d. The forceps to the after-coming head are the quickest and safest means of delivery for mother and child, and, when properly applied, cannot fail in any case where delivery is possible.

---

PRIMARY LAPAROTOMY IN EXTRAUTERINE PREGNANCY BY  
DR. ROBERT P. HARRIS.

A CRITICISM AND REPLY.

---

BY

LAWSON TAIT, F.R.C.S.,

Professor of Gynecology, Queen's College, Birmingham.

---

IN days gone by, when I was young and inexperienced, I had an immense respect for men who had the ability and industry, as well as the leisure to write what are called "library papers." My respect, however, has diminished with age, for I find it is a very easy thing to appear learned at a very little cost, and in these days of *indices* and *digests* these "library papers" may be written without troubling even the catalogues, far less the books on the shelves. This would be a small matter, were not my respect for the said "library papers" still more diminished by the fact that I have found that these men of research are rarely men endowed by the common sense born of experience. This want of respect, thrust upon me by the grim force of the evils wrought by such papers as that I am about to criticise, evils from which I have suffered, reached its height when I first saw the mischief wrought by Dr. Robert P. Harris in another instance which I need not particularize, because I know Dr. Harris is so sore on the subject that he has taken to level his arguments against me on anonymous post-cards.

Let me confine my criticism in the present instance to the title of the paper. Why "primary laparotomy?" Dr. Harris explains as follows: "To save both mother and fetus, as by Cesarean section, is very naturally the operator's desire; the history of the past of primary laparotomy, *as the section which is designed to save the life of the mother and that of her viable fetus is called*, shows that he has only one chance in nine of preserving the life of the former, and one out of two of saving the latter." I have placed a clause of this sentence in italics to draw special attention to it for the

purpose of asking, Who is it that calls this operation "primary laparotomy," besides Dr. Harris himself? I know of no one, and I now protest against any such grossly misleading title. On a preceding page, speaking of opening the abdomen for ruptured tubal pregnancy at the time of rupture and on account of hemorrhage, Dr. Harris says: "This is not *primary* laparotomy." I ask why? If the word *primary* is to be used at all, and it is a most pedantic intrusion, without meaning of any kind and pregnant with confusion, I say it certainly ought to be used in some such sense as it is used either in common parlance or in technical language. The period of rupture rarely is later than the twelfth week. Of fifty-eight cases (at least) now in my own personal cognizance, I do not think in a single instance the pregnancy had advanced as far as the fourteenth week. I have never seen any museum specimen which bore indisputable evidence of its being later than the twelfth. To save a viable child in extrauterine pregnancy we must surely wait till nearly the seventh month. Therefore, according to the ordinary meaning of the English language, abdominal section at the time of rupture is *primary* in point of date; abdominal section for a viable child surely is *secondary*, though half a dozen things suggest that it might be *tertiary* or even *quarternary*. (I may here go aside to say that I detest the pedantic and inaccurate word laparotomy. I always use the term "abdominal section," regretting all the while that we have not a decent Anglo-saxon term for the Teutonic *bauchschnitt*. Dr. Harris is a master of arts; let him turn to his gradus and he will find λαπαρα given as "pars inter costas nothas et ossa ilia." How could Dr. Harris make an incision in the *linea alba* between the bastard ribs and crest of the ilium?)

Again, if we take the technical meaning of *primary*—long accepted, but a perfectly false definition—as in amputations, to mean operation at the time of accident, when the patient is collapsed from shock, pain, and hemorrhage, surely the patient with a ruptured tubal pregnancy is in a *primary* condition. Certainly most of mine have been so, as much as if they had been smashed knee joints, and if left alone they seem to die as surely. On the contrary, the women from whom I have removed viable children have far more resembled cases of ampu-

tation for disease. Surely they are *secondary* operations in the technical sense.

I protest, therefore, altogether against this new false and misleading nomenclature; and I specially protest against its being forced upon us by a writer who, according to his own showing, has no kind of practical knowledge of the subject he writes about, and is a mere writer of "library papers."

Far more mischievous, however, than his nomenclature is Dr. Harris' pathology, and entirely mistaken it is save in one instance, and there he has taken it bodily from my own writings without any kind of acknowledgment. Of the most fatal kind will be his misguided advice if it be followed, as it may be by beginners. His pathology and his advice are alike based on his statistics, and as these are entirely false and misleading, I may as well begin with that aspect of the question, and premise it with a brief discussion of a whole page and a half, which he devotes to abusing me. "Primary laparotomy," writes Dr. Harris, "in extrauterine pregnancy is a very rare and fatal operation, so rare that only one operator out of twenty-six has had a second case. It is true that Mr. Lawson Tait, of Birmingham, has claimed to be an exception both as to the number of his cases and the proportion of his cures. But he has given no detailed statement of the six cases which he says recovered, and I do not, therefore, feel justified in adding them to my record, which is complete, in preserving the peculiar features of each individual case." I regret deeply to have to say of one who has so many good qualities as Dr. Harris, that here he is deliberately—I do not say intentionally, I say *deliberately*, because he has so persistently hammered at this question and has mis-spent so much time over it—he is deliberately misrepresenting me in this matter. I never said that I had performed "seven primary laparotomies on extrauterine pregnancies." If I accepted Dr. Harris' definition, my cases would come down to three such, with one death of a mother and no deaths of the children. But I classify my cases on an altogether different principle, indeed to give the whole facts as they now stand before me I have altered my classification of these cases quite lately, because I begin to see clearly, what I did not know twelve months ago, that even my own short list of seven cases must be divided into three distinct groups, groups quite as distinct as must be made in amputations, *primary* operations

for injury, operations for secondary gangrene, and operations for chronic disease. In Dr. Harris' list it is abundantly clear that all three of these classes are jumbled together and therefore, in my opinion, *the list is not worth the paper it is printed on*. This list is a mere catalogue of first cases, for the most part the performances of inexperienced operators—a list which shows nothing but a record of horrible disasters. Dr. Harris says I made a claim. I did nothing of the sort. He wrote me early in 1886, asking for details of my cases, but knowing quite well what use he intended to put them to, I promptly and emphatically refused to give them to him, and my refusal has been most completely justified by the results now before me in his paper. Twenty five operators of one case each and there are twenty-two deaths! One surgeon has two cases (both like amputations for spreading gangrene, abominable and hopeless) and they both died. I have had six cases and five have recovered (Dr. Harris twice mixes up the different lists and his record is wrong in each instance). The seventh case was one where I stupidly operated from the vagina. It was my first experience of extrauterine pregnancy and I killed my patient.

Dr. Harris says, "Mr. Tait said on August 1st, 1884, before the British Medical Association that he had operated once, losing the woman and saving the child; but on May 10th, 1886, he wrote me a letter in which he claims that he had operated seven times and had only lost one woman; three of the extrauterine children being then living and growing up. Between these two dates were twenty-one months, in which time, therefore, he must have had six operations in order without a death. To have been called to six cases in a condition to require primary laparotomy within so short a period is a marvel, but to have saved them all is little short of a miracle." This is Dr. Harris' ingenious method of revenge, to pay me off for refusing to give him the desired addition to his cherished statistics. But he need not have been so clumsy in his method, for he gives in his own list the date of that case as January 31st, 1880, and in my paper, which is to be found in full on page 317 of the *British Medical Journal* for August, 1884, it will be seen that the allusion to this case is made without any intention of doing more than illustrating a particular fact, and what is said of it is in the sentence: "This was done in a case under the care of Dr. Lattey, of Southam, and myself, and a living (still

living) child was removed. The mother, however, did not survive the operation," and the very next sentence of the paper shows clearly that Dr. Harris is suppressing the truth, for I go on to say, "In *all* the cases I have had of extrauterine pregnancy going to the full time there was a clear and indisputable history of tubal rupture about the tenth week, etc., etc." This makes it certain that if Dr. Harris had chosen to write out the case to its entirety, the context shows that up to this time I had had other cases. As a matter of fact I had had three others. The case which Dr. Harris refers to was my fourth, and it shows only how vindictive Dr. Harris must be or how careless these library writers are.

It will hardly be believed, but in the very series of transactions which Dr. Harris makes a profession of having searched so carefully, I mean those of the London Obstetrical Society, there is a paper of mine "On the Diagnosis of Extrauterine Pregnancy," in the volume for 1874, of which this is the second sentence: "I venture to bring this subject before the Society because I have been fortunate enough to have seen three cases of extrauterine pregnancy, and to have operated in two, once successfully." Dr. Harris professes to have made an exhaustive examination of the index to discover the literature of the subject. His examination, or the index, must have been uncommonly defective, because the index of the publication of one case is given on page 482 of Neale's "Medical Digest," and it occupies nearly a column in the *Medical Times and Gazette* of August 2d, 1873.

My first and second cases were in 1872, and they were both published in the next year. I published another in 1879, and my fourth was published, as I have already said, in 1880. I have published no others, although I had three, nor do I mean to do so until I can see my way clear to say something which my next experience may not make me wish I had never said, for this is what limited experience and too early utterances are apt to lead to.

When Dr. Harris said, "I do not feel, therefore, justified in adding Mr. Tait's cases to my record," he was talking nonsense. He could not have added them if he would, for I would not help him to them. He pestered me a good deal and then tried to force me by letters in the *British Medical Journal*, but fruitlessly, and in my reply to him in that journal I gave the



reasons that I give here, that Dr. Harris' methods of using statistics were merely misleading and mischievous. Let me now show why I think so more in detail.

Let us first of all look at Dr. Harris' list as it stands. I say I object to the word "laparotomy" as pedantic and inaccurate. Let me say further that, in the general classification of all my abdominal operations for years past, I have adhered rigidly to the definition of an "abdominal section" as an operation where the peritoneal cavity is opened. I may be right in this or I may be wrong, I have not space here to discuss that question. But it follows from my method that a nephrectomy, or a colotomy, or any of several other operations may be or may not be abdominal sections, just as they happen. I may in one case open the peritoneal cavity, in another I may not. I have even in one case—I suppose Dr. Harris will murmur "*credat Judæus, sed non ego*"—removed two suppurating Fallopian tubes without opening the peritoneum, and that case, of course, is not included in my list of abdominal sections. All this I say in order to lead up to what I want to point out further, that I could not understand until I saw Dr. Berry Hart's drawings and sections how some of my operations for extrauterine pregnancy in the viable period were abdominal sections and some were not. I know how it is now, and those who are curious on this most important point may read with advantage my recent communications on the subject to the London Pathological Society. It is now to me a matter of the most intense satisfaction that I had published nothing definite on this subject before I saw Dr. Berry Hart's work; if I had done so, I should most assuredly have talked nonsense. I still want to avoid doing so, for as I agree with the great writer who said, "a wise man changes his opinions seldom, but a fool never," I am anxious to make such changes as seldom as possible. There is hardly an opinion expressed in Dr. Harris' paper which he will not have to change if he live long enough, and is wise.

I also know now that none of the operations for extrauterine pregnancy in the viable period ought to have been abdominal sections at all, and I know that I blundered in those where I opened the peritoneum. Usually opening the peritoneum is a matter of slight moment, but when you are going to leave a decomposing placenta to come away piece-meal, it probably will be of the utmost importance to leave the cavity unopened.

In these operations, therefore, the peritoneum ought never to be opened. How now about Dr. Harris' "laparotomies?" In only four cases of his list of twenty-seven is there any information on this point, and in the record of these nothing is said about the cavity having been closed by sutures, *the most important point of the operation in cases where the sacs have been ruptured.* In the solitary instance (25) giving such information by Dr. Harris as to be of any value, the mother was saved by careful closure of the peritoneal cavity.

In the whole of this list there is not one case, not even my own, where the operation had anything like a fair chance. Most of the patients were moribund when the operations were done. Therefore the list has only the attraction of a chamber of horrors. Let what a fellow-townsman of Dr. Harris has called "Tait's law" come into force and a different list will speedily be formed. Let me say that Tait's law is not the absurd saying attributed to me by Dr. Horatio R. Bigelow, of Washington, D. C., "when in doubt, open the abdomen and find out." Tait's law, on the contrary is, "when the conditions within the abdomen are such that the life of the patient is evidently threatened, or the conditions continue in such a direction as to defy ordinary treatment and make life unendurable, do not let any doubt as to the accuracy of the diagnosis stand in the way of an exploratory incision, for this will at once make a complete diagnosis possible and open a road for successful treatment." If such a law were acted upon, it would be impossible to bring out such a list as that with which Dr. Harris has favored us—a list which we had much better bury with the dead victims of delay and tinkering. To this delay directly tends the mischievous advice given by Dr. Harris in the words: "The operator finds that there is much danger to be apprehended, that the pseudo-labor may produce a rupture of the gestative sac, and the death of both mother and child; and he also learns that, when the woman has passed through this period of danger, and her child is dead, a longer interval of ten weeks, on the average, will enable him to perform secondary laparotomy, as it is called, after fetal death, with a prospect of saving the mother in perhaps seventy per cent or more." The list, even as it is, shows no such conclusion; on the contrary, it is "the ruptured sac," the "peritonitis," the "septicemia," which shows the mischief of the delay, and why should the child have

no consideration? Why should the parent's natural desires not be considered? What right have we to murder these children either by immoral delay or galvanic shocks? Our business is to save life and not destroy it. A recent speaker at the London Obstetrical Society said that the children in these cases were such as we need not consider, and Dr. Harris indicates the same conclusion. But this is not true of any of the three children whom I have been able to save by operation during the viable period. One is a girl now about eight years of age, of great intelligence and most uncommon beauty. Another is a bright child, and the third I hope, as my adopted son, to see some day a follower in the steps of my own walk in life. Dr. Harris comes to this most erroneous conclusion, to advise delay till the death of the child, for a reason which is equally mistaken, that the placenta must not be removed at the time of the operation. I thought so too once, but I think so no longer and, therefore, it is to a very large extent that I have waited for further experience before I published my cases and pronounced any judgment. Certainly I do not intend to have my judgment over them anticipated by Dr. Harris. Nothing could be more conclusive for these resolutions than the use made by Dr. Harris of the account published by Dr. Mattfield. He speaks, alluding to these cases, of what he calls "proper asepsis," but in Dr. Champney's recent experience "proper asepsis," if such a thing exists or can ever be obtained, ought to have triumphed, but it did not, and the included placenta was the cause of the failure even after a period had elapsed beyond which success seemed assured (Obstetrical Society's Transactions, 1887). Dr. Harris seems to be like others who have adopted this craze of the septic theory, it has become with such men almost a part of their religion, and they have no tolerance for those who will not accept it, and, like the inquisitors of the Middle Ages, they are anxious to grill and torture and destroy all who differ with them.

In conclusion, let me say one word more on the personal matter. Dr. Harris says, "Mr. Tait must excuse the incredulity excited by those startling announcements of his in the minds of many here and in his own country. He has chosen, whilst in the frequent habit of reporting his other cases in the journals, to withhold from his professional brethren the details of these. Mr. Tait claims he has a proprietary right to do what

he pleases with his own cases, this is true; but how is he going to establish his extravagant claim without giving proof of his having had the individual cases?" It strikes me with amazement, after the enormous mass of material which has passed through my hands during the last twenty years, that it should be regarded as an extravagant claim that I have seen and operated on seven cases of extrauterine pregnancy within the viable period. If incredulity had been expressed concerning my statement that I have now thirty-six times operated upon tubal pregnancies at the time of rupture, and have saved thirty-four of the women in these cases, I would not have been entitled to express much surprise. I have published all these thirty-six cases in detail in the ordinary way, and they have passed without comment. The reason of my publications in that instance is that I believe I have finitely arrived at real methods of dealing with them. Certainly no indication further than I have gone has yet been intimated, and even if the conclusion is not final, it certainly is so uniform as up to the present to preclude either doubt or adverse criticism. I have issued my conclusions on the confirmation of an experience sufficiently extended to enable me to do so. But I have already said that, what with the mistakes of some of my earlier cases and the limited region of my experience, greater though it be than that of any other who has ever dealt with the subject, in cases of extrauterine pregnancy within the viable period, I do not yet feel myself justified in indicating my conclusions, and, therefore, I have refrained from publication in the matter. It would have been well if Dr. Harris had been equally reticent.

Dr. Harris' allusions to my cases are absolutely unjustifiable. He wrote to me a private letter and I answered him in the same way. He had no right then to allude to my cases without my permission, which I had so emphatically withheld. Whether he or any one else doubts them is to me a matter of perfect indifference, for I know that this means, in the case of those whose opinion may be valued, that the facts when displayed will have an increased value attached to them. As for others, it matters not; mere personal animus is like the glass of wine in the old story. I wipe my face and explain it as a mere digression. Such a method of criticism ought to be met only with silent contempt, no language such as he has used nor any such method of criticism will induce me to prejudge a

question on evidence concerning which my own mind is not yet made up and on which I require some more knowledge of details. Dr. Harris says that these operations are extremely rare. With this I entirely concur, and in this lies the difficulty. When I am sure, all further experience arrived at will be given to the world as all my other experiences, similarly or nearly so complete, have been. Meantime, I am so fully engaged in fighting battles on matters of everyday occurrence that I regret even now being thus prematurely drawn into a discussion which I consider both actually and relatively of small importance.

Dr. Harris concludes by a most disingenuous misrepresentation of a discussion which took place in these columns concerning hysterectomy. Dr. Horatio R. Bigelow, of Washington, D. C., had said that hysterectomy (or rather myomotomy) had in Germany a mortality better than removal of the uterine appendages for myoma (p. 140, *AMER. J. OBST.*, 1886). I replied that when the German operators published their statistics as we do in England I would believe it (p. 487, *loc. cit.*). The late Dr. Schröder unfortunately fell into the error of believing that I threw doubt on his statistics. That was not so; because I had not seen any of his statistics, for the reason that the German operators (Dr. Schröder certainly) seem to be not in the habit of publishing their statistics, as we do in England. They were published in a book by his assistant, whose name I did not know, whose book I had never seen or heard of until it was sent me from Amsterdam specially, that I might see it, by Dr. Mendes de Leon. I certainly never dreamt of hunting up Dr. Schröder's statistics under an unknown name. When, however, I did see the statistics, I did believe them, for they fully proved the inaccuracy of Dr. Bigelow's statements and confirmed my own (p. 824, *loc. cit.*).

This is a very different representation of the incident from that insinuated by Dr. Harris, and it is a great cause of pain to me to have to chide a man of Dr. Harris' position and attainments for such an improper method of argument.

December 20th. 1887.

---

## CORRESPONDENCE.

---

### THE OPERATION OF PRIMARY LAPAROTOMY IN CASES OF EXTRAUTERINE PREGNANCY.

AN ANSWER TO MR. TAIT'S CRITICISM AND REPLY,

---

BY

ROBERT P. HARRIS, M.D.,  
Philadelphia.

---

I HAD not intended answering Mr. Tait's "criticism and reply," but have yielded to the judgment of two eminent gynecologists, and will do so in as few words as possible, first disclaiming any feeling of resentment for what he appears to think I must feel aggrieved at. The paper claims nothing more than to be a record of mortality and success in an operation of great interest, as well as of great danger. Having made searches by correspondence in eight countries, in order to secure important points not published, it hardly comes under the classification of "library papers." The terms *primary* and *laparotomy* are not mine. The classification into "primary" and "secondary" is an old one, far more so than Mr. Tait's early exsective operation. To save two lives is of primary importance, and but one, of secondary moment, compared with it. The term "laparotomy" is not mine, and was recommended as a substitute for "gastrotomy" by a noted classical scholar and surgical author; my preference would be for *étronotomy*—an incision into the lower belly. The term "laparotomy" is in very general use in a number of countries. It is true that I did send Mr. Tait what may have been unpalatable statistical information in view of his extravagant calculations of Cesarean mortality, on the backs of postal cards without signature; and it is equally true that he replied through the same medium without name. Where the hand-writing is perfectly well known by the receiver, a signature on a postal card is not absolutely required. It was a small matter for him to bring against me, especially when the facts are as stated.

When searching the records of the past, I became convinced of the great proportionate mortality of what is here generally known by the term primary laparotomy in cases of ectopic gestation, and wrote my views to Mr. Tait, which brought the letter of May 10th, 1886, in which he distinctly stated what he now claims that he



never did, *i. e.*, that he had performed seven primary laparotomies in extrauterine pregnancy, with six recoveries, and that three of the children were alive and growing up. This answer to a letter of scientific inquiry I never regarded as a private matter, and the editor of this JOURNAL, having read it, knows that I have not "*deliberately*" misrepresented the author. My next step was to send an unmistakably headed blank for the seven cases. Why did not Mr. Tait then state that he had only had three operations of the class called for, as he does now? He wrote that he had not time to look up his references, and that all or nearly all of the cases had been published in detail. It is a mistake that I tried to force him to publish them, or to give them to me, for I soon became convinced that he could not have saved six women out of seven of the class I wished to tabulate; and now it appears that his six cures are reduced to two by his own admission.

With regard to his remarks, upon what I called his attention to, touching his charges against the hysterectomists of Germany, I have only to ask the reader to examine Mr. Tait's letter, and the late Prof. Schröder's reply, in the volume of this JOURNAL for 1886, in the numbers of May and August.

The references Mr. Tait has furnished in his criticism are all well known to me, and refer to cases of extrauterine pregnancy operated upon by him, in only one of which was the fetus *living* and *viable*, and for it he has been credited in my tabular record.

CASE I.—July 17th, 1872.—The woman was operated upon by elytrotomy and a dead fetus removed, of about eight months, and stated to have been "dead some time." The placenta was then removed. Patient died in a few hours. On autopsy, cyst was found to have been ruptured inferiorly, and the small intestines had partially filled it. A "considerable amount of clotted blood was found among the coils of intestines." The number given is Mr. Tait's. (*Medical Times and Gazette*, August 2d, 1873, p. 119.)

CASE II.—Mr. Tait's enumeration. November 2d, 1872. Woman had carried the fetus about thirteen months. Operation by abdominal section; placenta not removed; edges of cyst-opening stitched into those of the abdominal wound. Patient made a good recovery as many similar cases treated in the same way have. (*Trans. Medico-Chirurgical Society*, 1873, p. 219.)

CASE III.—The succeeding case was numbered "Third" when Mr. Tait reported it; he now says it was his fourth. The real third in order was an abdominal section performed on May 16th,

1879, for the removal of a macerated and rotten fetus of three months. (*Lancet*, November 15th, 1879, p. 731.)

CASE IV.—January 31st, 1880. This is the case to which Mr. Tait refers in his paper in the *British Medical Journal*, Vol. 2, 1884, p. 317, as having been under his and Dr. Lattey's care, the report of which appears in full in the *Lancet* of May 22d, 1880, under the title "A Third Case of Extrauterine Gestation, Treated by Abdominal Section." This enumeration is correct, in the sense of its being an abdominal section, the first case having been an elytotomy. This was Mr. Tait's first abdominal section for the removal of a *living* and *viable* fetus, and is case 18 in my tabular record.

In the "Transactions of the Obstetrical Society of London," Vol. 15, 1874, p. 135, which Mr. Tait thinks I overlooked, appears the following: "I have been fortunate enough to have seen three cases of extrauterine gestation, and to have operated in two, once successfully. (Meeting of May 7th, 1873.) The two antedating cases are here given, as 1 and 2, of 1872.

"Neale's Digest" was not overlooked, and all the cases referred to are in my memorandum book, but have no value in considering the question of abdominal section for the removal of a living and viable fetus, of which Mr. Tait now says he has had three, saving two women.

The exact language Mr. Tait wrote is as follows: "You are much mistaken about saving patients by primary laparotomy in extra-uterine cases. I have operated seven times and saved all my patients but one, and in that case I saved the child. Three of my extra-uterine children are alive and growing up."

ROBERT P. HARRIS.

329 S. 12TH STREET, PHILADELPHIA,  
January 19th, 1888.

[This discussion is herewith closed, as far as this JOURNAL is concerned.—ED.]

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

*Stated Meeting, January 3d, 1888.*

*The President, DR. H. T. HANKS, in the Chair.*

### CLAMPS FOR USE IN VAGINAL HYSTERECTOMY.

DR. POLK presented two clamps which he had devised for securing the broad ligament in vaginal hysterectomy. The one was more slender than the other and was useful in cases where the ligaments were not specially broad. One instrument was fitted with the obstetric lock so that it could readily be taken apart for purposes of cleanliness as well as applied and removed with ease from the ligaments. In the other instrument the point of one blade worked in a socket at the end of the other, and each blade could therefore be removed separately, thus doing away with the liability of tearing or breaking up adhesions, if such were included between the blades.

To the PRESIDENT's query if the clamps were not similar to those devised by Richelot for the same purpose, DR. POLK replied that, in principle one pair was: the principle of the other had already been utilized or suggested by Greig Smith. But there were essential differences, as could be seen by comparing the instruments.

DR. LEE questioned if clamps were of assistance in the performance of the operation except where there was much infiltration of the ligaments, and here the operation could not be considered indicated. He had personally never felt the need of clamps in cases which he believed to be suitable for the operation, that is to say, where the disease had not extended beyond the uterus.

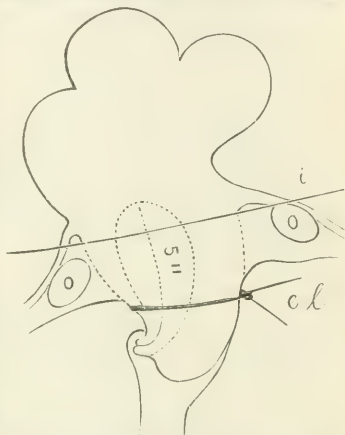
DR. POLK agreed with Dr. Lee that the operation was contra-indicated in instances where the disease was not limited to the uterus, but he claimed that the clamp would be found of great assistance in every suitable case. The duration of the operation was thereby greatly shortened, by at least one-half hour, and less shock was entailed. Further, the operation was rendered easier of performance, and the requisite dissection could be more carefully entered into. His practice was to clamp the ligaments after he had separated the bladder. Assuming that the average operation (when only the ligature was used) required for its proper performance one hour, he thought that the use of the clamps would easily enable one to do the operation in half an hour. The clamp would not slip, and the hemorrhage accompanying the operation was trifling where this instrument was used. He had left the clamps *in situ* for one week and they acted as drains. He did not sew up the opening into the peritoneal cavity, but simply tamponed the vagina with iodoform.

DR. LEE stated that he had used the long Tait forceps on the ligaments, but only whilst putting on his ligatures. None of the

nine cases in which he had operated had required much more than three-quarters of an hour. It was his practice also not to sew up the opening into the peritoneal cavity.

#### HYSTERECTOMY FOR FIBROIDS.

DR. MUNDE presented the specimen removed from a patient with the following history: A colored woman had been referred to him at the Polyclinic for an opinion as to the advisability of operation. The symptoms were mainly the result of pressure from a large fibroid extending from the floor of the pelvis to the diaphragm on the right side. Hemorrhages were not a factor in the case. He had advised operation, and had performed hysterectomy two weeks previously. By means of two corkscrews he had been able to lift the tumor out, and had then found an enormous pedicle, between four and five inches in diameter. He had ligated the ovarian vessels on both sides. They were unusually large, and from the left side there was considerable hemorrhage. He had thrown a quadruple elastic ligature around the greater part of the tumor, and had cut it off. He had then peeled the peritoneum from



*el*, Elastic ligature. *i*, Point at which tumor was cut off. The whole tumor below this was enucleated, the pedicle being formed of what remained of the cervix. The ovaries *o, o*, were cut away from the pedicle separately.

the remainder of the mass, enucleating in this way the whole pelvic part of the tumor and had obtained a fair-sized pedicle. Pins were passed over the ligature, the stump trimmed off and cauterized with the Paquelin, and he had then sewed the parietal peritoneum to the stump below the ligature. He had at the outset attempted to enucleate the whole tumor from above, but he had desisted, as it became evident that the operation would thus be greatly prolonged. The patient was doing well and made an uneventful recovery, the elastic ligature and pins being removed on the twelfth day.

DR. POLK described a method after which he had recently operated successfully in two cases. He had lifted the tumor out by corkscrews, and thrown a rubber ligature around the whole mass. He had next made a circular incision around the uterus about its middle, and stripped down the peritoneal covering.

Posteriorly and upon the sides it was necessary to strip down the external muscular layer with the peritoneum. The peritoneum is thus not injured, and all the vessels are intact and under the operator's control. The mass is amputated within the sac thus created, the vessels are ligated and the stump seared with the cautery. The temporary rubber ligature is then removed and the sac (originally the outer covering of the uterus) is stitched to the parietal peritoneum with stout catgut, and again to the abdominal wall by the heavy sutures passed from one side to the other of the incision. The opening left is stuffed with iodoform or bichloride gauze, the whole covered with the usual dressing. Whether this method is applicable to every case cannot now be said, but he believed it peculiarly applicable to thick heavy pedicles. It enabled the operator to dispense with pins.

THE PRESIDENT read a paper entitled:

BENIGN AND MALIGNANT GROWTHS OF THE UTERUS COMPLICATING PREGNANCY.<sup>1</sup>

In opening the discussion, DR. LEE stated that he agreed fully with the reader's deductions, and desired only to lay additional stress on two points, the one relating to the prognosis in case of fibroids complicating pregnancy, and the other on the occurrence of malignant disease of the adnexa and pregnancy. Fibroids in the body of the uterus and those towards the base of the pelvis must be sharply differentiated. The latter, alone, as a rule, interfere with delivery. He recalled a case which had been reported by Kimball, of Springfield, Ill., where a fibroid just above the internal os arrested the child's head. Ineffectual attempts at dilatation were made, and, finally, the patient died undelivered. In like instances he believed it advisable to resort at once to the Cesarean section. Subperitoneal fibroids about the cervix were apt to prove the most serious impediments to labor. Often, however, they could be pushed up and the labor ended by version. In this connection, he recalled a case which had been sent into the Woman's Hospital with the diagnosis of ovarian tumor. The tumor proved to be the enormously distended bladder. Fully half a gallon of urine was removed by the catheter, and he had then diagnosed acute retroversion of the gravid uterus (four months), complicated with a number of subperitoneal fibroids in front of the organ. He was neither able to replace the uterus nor to evacuate it, and he had counseled the performance of the Porro operation, but in this he had been overruled by his colleagues, and the patient had died of sepsis. In cases such as the above, he believed the Porro to be indicated. When the fibroids were situated at the fundus, they did not interfere with delivery, but were likely to cause hemorrhage during the third stage, since they impeded due contraction of the uterus and consequent closure of the placental sinuses. A case of this nature had been reported by him in the first volume of the transactions of the Society. It had occurred whilst he was one of the visiting surgeons at the Charity Hospital. The patient had simply bled to death one-quarter of an hour after the delivery of the placenta, notwithstanding the use of every available means. The cause of the hemorrhage was a mystery till the uterus was examined post-mortem, when it was found so filled with fibroids that it could not contract. The speaker

<sup>1</sup> See original articles in this number.

made some remarks concerning ovarian tumors as complications of pregnancy. He did not believe that they always called for operation. When they were immovable, impacted in the pelvis, and rapidly growing, operative interference is certainly necessary, but when they were situated above the pelvic brim and the pedicle was long, he did not deem it necessary to subject the patient to the risk of ovariectomy during pregnancy. Some time previously he had seen in consultation with Dr. Polk a primipara in labor with an ovarian cyst above the fundus. The question to be answered was: if, by emptying the uterus rapidly, the patient might not be saved the risk of rupture of the cyst during the uterine contractions. He had answered this question affirmatively, and had counseled delivery by the forceps. Here, interference during pregnancy was not called for, since the tumor was doing no harm. In regard to cancer of the cervix, the speaker agreed perfectly with the deductions in the paper.

DR. POLK inquired if he had understood the reader to state that in one of his cases a fibroid had disappeared during pregnancy. Ordinarily these growths increased in size during gestation and diminished during involution. He could not conceive of a cause which would entail a disappearance of a fibroid during pregnancy.

THE PRESIDENT replied that he had been correctly understood. Three months before delivery, the presence of the fibroid had been determined by Drs. Thomas, Lee, and himself, and yet Dr. Partridge, who had delivered the woman at the Nursery and Child's Hospital, had been unable to find it. Inexplicable as the case appeared, similar ones had been reported.

DR. POLK stated that he did not at all doubt the facts in the case, but had simply asked for information, being surprised to hear of an occurrence so utterly at variance with the rule. In regard to the President's preference for Cesarean section over craniotomy, he wished to fully indorse it. He believed that we had reached a stage where this opinion should be accepted, even as two years ago he had expressed the hope that it would. In case of carcinoma of the cervix, the Cesarean section should certainly be chosen, and he hoped the President would extend the rule to fibroids obstructing delivery, which could not be enucleated *per vaginam*. The question to-day could be discussed in the light of its mortality, and he desired to record his belief that the modified Cesarean section, rightly performed and in good time, was no more dangerous than craniotomy, and yet saved the life of the child.

DR. BOLDT deemed the presence of intramural fibroids in the lower segment of the uterus a grave complication of pregnancy. He was familiar with two cases in his own practice and with one in that of Dr. Von Ramdohr, where rupture had ensued. He indorsed the preference which had been expressed for the Cesarean section over craniotomy.

DR. MCLEAN agreed with the statement in regard to the gravity of intramural fibroids in the lower uterine segment. In regard to the difficulty with which dilatation was effected in case of cancer of the cervix, he called attention to the fact that the process might be expedited by artificial means. Barnes' dilators would be found efficient, and thus frequently the diseased tissue was separated from the healthy.



DR. HUNTER claimed that no law could be formulated generally applicable in regard to the time for interference in case of fibroids complicating pregnancy. He could recall three cases where these tumors had not proved obstacles to efficient uterine contractions after the third stage of labor. He had also seen a number of ovarian cysts, and removed one weighing forty pounds which did not interfere with the phenomena of labor. Neither did cancer always call for operation. He mentioned a case where Dr. Bull had operated the previous spring. The patient was advanced to the seventh month of gestation, amputation of the cervix was performed; delivery at once followed, and the child lived.

DR. COE queried whether women with fibroids should be advised to marry. He recalled the case of a young girl he had seen at the Woman's Hospital, and whom he advised not to marry on account of the presence of fibroids. She did not accept his advice, aborted some time afterwards, and almost died from profuse post-partum hemorrhage. At the recent meeting of the International Medical Congress, this question had been discussed, and the general opinion was that marriage should be discountenanced.

DR. MUNDÉ stated that many of his views had been expressed by the previous speakers. He laid stress on the strict necessity of differentiating the locality of the fibroid. In all instances of tumor in the pelvis or of the cervix which could be reached per vaginam, enucleation should be first attempted. Statistics proved that this was a safer procedure than resort to version, craniotomy, or evisceration. Out of sixteen cases of enucleation during labor, only two mothers had died, and the majority of the children had been saved. He recalled a personal case, which he had reported two years previously in a paper read before the American Gynecological Society, where he had enucleated a cervical fibroid weighing three pounds. In this case, he had intended waiting until the child was viable before operating, but his purpose was defeated by the beginning of labor, during the progress of which he had operated, the patient making a good recovery. He could recall but six cases of fibroids complicating pregnancy, and in his experience they had caused no trouble when situated at the fundus. In connection with the question of fibroids in relation to marriage, he referred to a case he had seen several years previously, where, in a young girl about to marry, he had detected small tumors on each side of the uterus, which, at the time, he had considered enlarged and adherent ovaries, and had therefore expressed doubts as to the chances of conception. The patient had, nevertheless, conceived; he had delivered her at term, and had then found the tumors to be subperitoneal fibroids. During his service under Scanzoni, he had seen two instances of inertia in the third stage resulting from the presence of fibroids. One year ago he had been called to a case of abortion where the physician in attendance, after removing the placenta, had found the uterine cavity filled with an irregular hard mass, which he concluded was a fibroid. Some of this he removed at once, but the greater portion was too firmly attached. He sent the woman to the hospital, and on her discharge a month later the tumor had nearly disappeared. This woman, he has just learned from her physician, has quite recently been confined at term and no tumor was found. In regard to operation during pregnancy in case of cancer of the cervix, he had had a case in his service where the tumor was the

size of a fist, filling the vagina, and springing from the posterior lip. Amputation had been resorted to, and the patient was subsequently found to have been three months pregnant. She went to term, had a normal labor, and five months later presented herself with a healthy child and normal cervix. In another instance, he had amputated with the galvano-cautery wire, and abortion had followed in a few days. In Germany, the pregnant uterus had recently been removed per vaginam on account of cancer. In case of the hard variety of cancer, he would not attempt to dilate the cervix, but would resort to the Cæsarean section.

DR. PEIRCE considered it remarkable how rapidly some intramural fibroids developed during pregnancy, and equally so their diminution after delivery. Their presence was apt to cause as much anxiety, and yet they often gave rise to no trouble during labor. He remembered well the first case he had seen in his practice. The woman was a primipara, aged about 40, and he had anticipated a difficult labor, but there had occurred no hemorrhage, and at the expiration of three months the tumor had nearly disappeared. Interstitial fibroids were likely to necrose, rupture, and to cause septicemia. He instanced a case where, during early labor, he had detected a tumor to the right and at about the middle third of the uterus. With each pain the tumor hardened and became rounder. He had been obliged to deliver by the forceps, and whilst doing so had heard a rupture, which, on artificial delivery of the placenta, he had determined to be at the site of the tumor. He indorsed fully the reader's recommendations in regard to prophylaxis.

DR. BOLDT mentioned an instance of disappearance of a fibroid after delivery. He had examined the patient before labor, and had found a large subperitoneal fibroid. She had an attack of peritonitis during pregnancy. The woman was delivered by a midwife. Some time afterwards he had examined her, and could find no trace of the tumor.

In closing the discussion, THE PRESIDENT stated that, in case of intramural fibroids, from four to six per cent of the women died from rupture of the uterus. In regard to the disappearance of fibroids during pregnancy, he could conceive of pressure being continued for some time directly upon the blood-vessels which nourished the fibroid, finally leading to retrograde metamorphosis. There could be no question as to the disappearance of the tumor in the case he had reported.

---

*Stated Meeting, January 17th, 1888.*

*The President, DR. H. T. HANKS, in the Chair.*

GLASS TUBES FOR SILK-WORM GUT SUTURES.

DR. NILSEN presented some glass tubes which he had found convenient for carrying silk-worm gut sutures. He stated that, contrary to Bantock's assertion, he had found that this suture would not break if it were properly softened before use in a hot carbolized solution (5%), and that further it would not slip when knotted, provided it was not allowed to come in contact with any grease, such as vaseline.

DR. COE commended the tubes, not alone for convenience in carrying silk-worm gut, but also silver wire.

THE PRESIDENT said that he was in the habit of softening the gut in hot water before use, and that thus it was rendered more flexible. He inquired as to the advantage Dr. Nilsen deemed the gut had over iron-dyed silk or wire.

DR. NILSEN replied that it was more easily rendered absolutely aseptic than silk and could be handled with greater ease than wire; besides being less expensive than silver wire at least. He made it a rule never to use silk in any case where air would have access to the sutures unless it was braided and had been boiled in wax with carbolic acid, which prevented its carrying infection from the surface into the suture tracks. The silk-worm gut needed no preparation. In regard to catgut, he had been surprised to find how rapidly it was disintegrated. He had recently had occasion to reopen the abdomen three days after operation, and the catgut used for suturing the abdominal fascia had nearly disappeared.

DR. COE expressed his surprise at this statement, for he had frequently noted the persistence of catgut around a pedicle seven to eight days after operation.

THE PRESIDENT stated that he had tested many varieties of catgut, and had often been disappointed in the rapidity with which it softened. Laterly he had been well satisfied with an article prepared by the Lister Manufacturing Company, of Bloomfield, New Jersey.

DR. HARRISON believed it a mistake to place catgut in alcohol, and yet much of the gut was so prepared. Am Ende's process was to expose the gut to sulphurous acid and then to place it in oil of juniper, and this gut would be found reliable.

DR. NILSEN stated that in the case referred to he had used the very catgut Dr. Hanks had named. He referred to the method recommended by Martin, which was first to place the catgut in a sublimate solution for six hours and afterwards in a mixture of two parts alcohol and one part oil of juniper.

DR. DUDLEY said that, whilst it was a good plan to soak silk-worm gut before use, it was a mistake to do the same with catgut.

---

EXTRAUTERINE PREGNANCY, NOT RECOGNIZED UNTIL AFTER ULCERATION AND PERFORATION OF THE SAC.

---

DR. H. C. COE presented a number of fetal bones, and related the following history of the case: On January 8th, I was called to see a lady, 40 years of age, who had been married eighteen years and had never been pregnant. Dr. A. C. Brush, whose patient she was, stated that she was just recovering from a sharp attack of peritonitis of eight weeks' duration, which resulted either from a cold or from an intrauterine application, at the time of the menstrual flow. She menstruated regularly in November, but had not flowed since. Her breasts were enlarged and felt rather sore. The nipples were prominent and the areolæ dark. She had had no morning sickness. Her mother, it should be stated, died of malignant disease, and she was very apprehensive lest she might be similarly afflicted.

On making a vaginal examination, I found the cervix large, but

not particularly soft, the os being closed. The uterus was considerably enlarged (to about the size of the gravid organ at three months), but was in the normal position. It was not freely movable. Through the posterior fornix there could be distinctly felt a hard, irregular mass, which extended upward to the left of the uterus. It was fixed and painful on pressure, and consisted of several nodules, which could be isolated one from another. No point of fluctuation could be detected. To my mind the diagnosis lay between malignant disease of the ovaries and peritoneum, and multiple subperitoneal fibroids. I rather inclined to the latter view, as the patient had been unusually well up to November, and had had no pelvic pain previous to the attack of peritonitis. As to her general condition, although weak and debilitated she presented no cachexia. The possibility of pregnancy was discussed, but it was dismissed on account of the age of the patient, her long period of sterility, and the total absence of symptoms which could not be explained by reference to the attack of pelvic inflammation. It should be stated that, during the past eight years, she had been under constant treatment for endometritis, receiving frequent intrauterine applications, so that if she had ever become normally pregnant during that time she could hardly have gone very long without aborting.

Being in great doubt as to the exact nature of the mass behind the uterus, we asked Dr. Hunter to see the patient with us. Meanwhile she was ordered copious vaginal injections of hot water. Two days after these were begun, she had a sudden discharge of sanio-purulent fluid from the vagina, which she supposed to be her returning menstruation, the flow being then a few days overdue. The discharge became more offensive and resembled that from an abscess or pyo-salpinx. Dr. Hunter saw the patient and thought that the mass was probably multiple fibroids, with perhaps a diseased tube and ovary. The discharge continued until a week from the time at which I first saw the patient (there being no fever or other disturbance), when her husband discovered on her napkin several ribs and the humerus of a fetus between four and five months old. Other bones were subsequently passed per vaginam, including a scapula, radius, several ribs, and a portion of the skull. I at once examined the patient, but could detect no change in the size or shape of the retro-uterine tumor. Through the speculum pus could be seen to escape through the posterior fornix, but I could not discover the exact site of the opening and was unwilling to prolong the examination on account of the weakness of the patient. Carbolyzed vaginal injections were given thrice daily, as the discharge was very offensive. It gradually diminished in amount and the odor became less fetid. No more bones were passed. To-day the patient began to have a discharge, which in odor and appearance resembles menstrual blood. She has had no rise of temperature, and is in fair condition.

The points of interest in the case are:

1. The age of the patient, and the fact that she had been married eighteen years without becoming pregnant.
2. The complete absence of any rational or physical signs of extrauterine gestation.
3. The appearance of the bones, indicating that the fetus was at least four months old and had been retained within the abdominal cavity for an indefinite period.
4. The question of treatment. Is it safe, having found the opening in the posterior fornix, to endeavor to enlarge it and then to wash out the sac, or is it better to be content with expectant treatment until the symptoms become urgent?

[January 30th.—Since the above was written, the patient has had a constant purulent discharge from the vagina. A week ago she passed portions of the skull and a piece of the scalp of the retained fetus. The mass behind the uterus is much smaller and it is still impossible to locate the opening in the posterior fornix through which the pus escapes. The patient's general condition is much improved; she has neither pain nor elevation of temperature.]

DR. MORRILL stated that the fact that the os was closed vouched for the gestation not having been uterine.

DR. DUDLEY inquired if any change had occurred in the mass in the cul-de-sac since discharge of the bones, and the PRESIDENT asked if there were anything in the history to suggest gestation some years previously.

DR. COE replied that the mass had not altered at all and that the patient, as far as he had been able to determine, had always been regular in her menstruation.

THE PRESIDENT considered the bones to belong to an old extrauterine gestation, possibly a number of years ago.

In connection with Dr. Coe's question as to the proper course to pursue in treatment, DR. HARRISON believed that this should depend on the location of the sac, seeing that active treatment might lead to hemorrhage.

DR. DUDLEY said that, from the size of the ribs, he would expect difficulty in attempts at removal of the skull.

DR. TALBOT referred to a case which had occurred in Dr. Bozeman's practice a number of years previously. After normal delivery at term, Douglas' cul-de-sac suddenly ruptured and a fetid extrauterine fetus escaped.

DR. GEORGE T. HARRISON read a paper entitled:

#### THE TREATMENT OF CATARRHAL PNEUMONIA IN CHILDREN.

The few remarks which I propose to make this evening have reference to that form of pneumonia to which children are especially liable, and which is known under the various terms broncho-pneumonia, catarrhal or lobular pneumonia.

The object to be aimed at in our therapeutical endeavors is, as Wyss expressed it, 1, to treat the bronchitis; 2, to combat the local inflammation; 3, to combat the fever; and 4, to sustain the vital forces. In the effort to carry out the first indication it is a matter of paramount importance that the patient should have

a large, well-ventilated room to which the sunlight has access. If practicable, it is well to have a fire in an open fire-place as the best means of ventilation at our command. But whatever means we adopt, it must be our problem to change the air of the apartment and not allow it to become stagnant. Every practitioner must have found at some time or other how difficult it is to overcome the prejudices of the attendants against fresh air, especially in pneumonia following measles or whooping cough. The idea is so ingrained that such a pneumonia comes from taking cold that any measures looking to a thorough ventilation of the room are regarded as fraught with the greatest danger to the child. In point of fact, the pneumonia is due to an impure atmosphere filled with morbid products. As a rule, and especially when the expectoration is attended with much effort, it is well to keep the air of the room moist. I have never made use of a steam atomizer, as recommended by some authors, but can well understand that under certain circumstances it might be very useful. Expectorants are recommended by all authors, and their use would seem to be indicated from *à priori* consideration as well as from the results of clinical experience. Ipecac is the most useful, and when the child shows symptoms of debility ammonium carbonate is an admirable stimulant. Senega is also an excellent stimulant and expectorant. Emetics have had their advocates, but I have never made use of them under these circumstances. Neither have I ever made use of the local abstraction of blood.

In regard to the second indication, to combat the local inflammation: The use of calomel is here indicated, and I believe that it is of undoubted efficacy in occasionally aborting the disease, and in other cases in shortening its duration. Of all the therapeutical resources at our command, however, I believe the one that is worth all the rest together is the wet pack. Bartels and Ziemssen deserve to rank among the greatest benefactors of the human race for having demonstrated, in an exact and scientific manner, the utility of this method of treatment.

The experience of ten years in the application of this hydro-pathic procedure has convinced me in the most decided manner that we have it in our power, in the preponderating majority of cases, of fully satisfying the second and third indications. The method I have been accustomed to employ is to take a piece of cotton cloth, that which is old by preference as it takes up the water more quickly and is softer, and fold it in such a manner that its thickness shall be six to eight fold, of the breadth of one or two hands. This is to be dipped into cold water, wrung out until it ceases to drip, and then placed around the thorax, extending from the arm-pits down. Over this is placed a piece of dry flannel or blanket, folded four times, and projecting about one inch above and below the wet piece of cloth—it is fixed in situ by



safety pins. In the case of very young children, I direct that they shall have their clothing removed entirely before applying the wet cloth, wrapping them up in a shawl or blanket. In this way the pack may be changed as often as required, with but little disturbance to the sick child. Wyss recommends that the child should now be allowed to remain in the pack for two hours, then it should be removed entirely and an interval of one-half to one hour allowed to elapse before this procedure is repeated. I formerly followed his advice, but now I do not remove the pack in this manner, but change it, every one-quarter, one-half, one or two hours according to the elevation of temperature, keeping it on continuously, except the interval of time necessary for its renewal. Of course, in very high fever, when the child is strong, the wet cloth may be a good deal wider than just mentioned. When the fever does not rise above 104° F., I direct the water to be used of the temperature of the room; but when the temperature is higher, I direct it to be applied as it is drawn from the hydrant in winter weather. Every time the pack is changed the little patient should have some good wine or a proper dose of brandy, to prevent any symptoms of depression of the action of the heart. It is exceedingly important that the extremities should not be allowed to become cold. That by this therapeutical measure we lower the temperature is susceptible of demonstration in an exact manner, by the thermometer. The effect on the local inflammation is proven by the improvement of all the symptoms. The clinical picture presented by a child sick with a catarrhal pneumonia is one calculated to touch the heart of any sympathetic nature. I need not dwell upon it, you are all familiar with it; as soon as the wet pack is applied the scene changes as if by magic. The child becomes quiet, the respirations diminish in frequency and increase in depth, it falls into a gentle sleep which often lasts until the time arrives for the renewal of the pack. The pleuritic pains diminish. When the cold cloth is applied the child takes deeper inspirations and cries for a short time, the effect being that mucus is brought up from the air passages and atelectases are prevented. Quinine has not seemed to me to be of any great efficacy. The sodium salicylate I believe to be a rather dangerous remedy in very small children, in doses large enough to affect the temperature, as I have seen it produce symptoms of collapse. If signs of carbonic acid narcosis are exhibited, Jürgensen recommends that the child be placed in a warm bath, and that a stream of cold water be directed against a given point close under the occiput from which deep inspiratory movements are liberated. To fulfil the last indication, it is important to give the child such food as will sustain it without embarrassing the digestive organ. One of the best articles at our command is peptonized milk, and above all we must not be afraid of the free use of wine or brandy. I am fully aware of the

fact that I am not telling you anything new, my excuse must be that physicians, as a rule, do not make use of the wet pack to the extent they should and hence the high mortality of catarrhal pneumonia in childhood. There is one remedy that I ought to mention before closing that has been invaluable to me in cases of weak heart, and that is camphor. I recollect most gratefully what a happy effect it had in a case of pneumonia, occurring in a little boy last April, and which Dr. Jacobi saw in consultation with me. The child, a boy about four years old, had undergone an attack of scarlet fever, which was followed by a severe form of nephritis, the hemorrhagic form. Pneumonia developed in one lung and subsequently the other was attacked. The heart seemed likely to fail, when on the advice of Dr. Jacobi, I exhibited camphor with the success above mentioned.

In opening the discussion, DR. MORRILL stated that about five years previously he had seen in consultation a case of pneumonia in an infant six months old, where all the routine drugs had been vainly administered to reduce the temperature. He had advised the cold bath, but the parents had objected and the cold pack was used instead. The infant recovered, as also occurred in another case where the child had been given up. He was therefore inclined to favor the pack. As showing the obscurity of the symptoms in certain instances of pneumonia in children, he mentioned a case he had seen a week before. The child was five years of age, had had a chill, the temperature was  $104^{\circ}$  in the axilla, and pain in an elbow was the only other symptom he could determine. He had carefully examined the lungs, but not until the fifth day after the chill was he able to detect bronchial breathing and dulness. On the ninth day the crisis occurred.

DR. TALBOT inquired if Dr. Harrison would advocate the cold pack in the essential fevers also.

DR. HARRISON replied in the affirmative, believing it to be worth all other antipyretics together. It was very exceptional that he ever lost a case by this method. The mortality in infantile pneumonia was formerly enormous; Vallet, for instance, having lost one hundred and fifty-four out of one hundred and fifty-five cases.

DR. FRUITNIGHT stated that he believed the wet pack to be valuable, particularly in sthenic cases. In instances where resolution was tardy, he preferred warm applications; and, in doubtful cases, mild counter-irritation would sometimes suffice. He had found that the cough might be greatly controlled by keeping the room at an equable temperature. He had no faith in quinine as an antipyretic, but administered it as a tonic. Inunctions with the oleate of quinine had been suggested as of value, but his experience was to the contrary. He had not found expectorants especially useful. In case of a weak heart he depended on digitalis.

DR. JACOBUS had tested antipyrin in small doses in adults and queried if it would not be of value also in infants.

DR. HARRISON stated that he had used it, but could not depend on it. During the past summer, he had seen a case where it had been used, but it had no effect on the disease, although it temporarily lowered the temperature.

DR. ABBOTT said that he had had somewhat the same experience with antipyrin, but had found that, after lowering the temperature with it, he could sometimes hold it there with quinine. He preferred the hot pack to the cold; for there was then less shock and the parents did not object.

DR. HARRISON said that if the child were weak he would not use very cold water. As for the shock, he believed it to be conservative. It caused deep inspiration and thus tended to prevent atelectasis.

DR. ABBOTT suggested that the same aim could be secured by giving a mustard bath before applying the pack.

DR. COE was in the habit of giving carbonate of ammonium at the outset, with expectorants. He had used antifebrin in pneumonia of children with good results. As for emetics, the depression resulting might be very alarming. He had seen a case where a child had received by mistake seven grains of turpeth mineral, and the collapse was startling.

DR. DUDLEY stated that he had used both hot packs and poultices. He had found an oil-silk jacket covering the entire thorax very effective. It acted as a poultice, and had a decided revulsive effect on the lungs. He was in the habit of leaving it on for eight or ten days. He had never used the cold pack. In California, the oiled-silk jacket was used to advantage in acute phthisis.

DR. HARRISON remarked that this used to be a favorite method in New York, but that he had found it disagreeable to the patient.

DR. GUNNING said he was rather sceptical as to the value of medication, since he had been able to purge or provoke emesis by sugar pellets. He had not used the cold pack, and expectorants were apt to upset the stomach. His practice was to administer aconite, bryonia, Fowler's solution, and tincture of phosphorus. The latter with bryonia he relied upon in collapse; the arsenic he gave as a tonic. He had thus obtained as good results as had Dr. Harrison.

DR. HARRISON failed to see how aconite could be at all effective. He asked how much Dr. Gunning gave.

DR. GUNNING replied that he added ten drops to a third of a glass of water, and of this a teaspoonful was ordered every few hours.

DR. ABBOTT, whilst granting the possibility in case of adults of medicating by sugar pellets, failed to see how the minds of infants could be affected.

THE PRESIDENT said that, in cholera infantum, he had been highly pleased with the wet pack. He could thus lower the temperature  $4^{\circ}$  in two hours. In pneumonia it was apt to frighten the parents, and if the child should die the blame would be laid on the pack.

DR. HARRISON granted that, in cases where there was much depression, he would prefer mustard to the cold pack.

#### CASE OF EXTRAUTERINE GESTATION ARRESTED BY GALVANISM.

DR. HARRISON related a case of tubal pregnancy at about the third month which he had arrested by galvanism. There could be no doubt about the diagnosis at all, for owing to the great ease

with which he had been able to make the bimanual he could exclude everything else. The case had been considered by the physician in attendance as one of hematocele, but he had readily disproved this. The escape of a decidual membrane was the only point lacking in the history.

DR. BACHE EMMET inquired if the sac had shrunk afterwards, and an affirmative reply was given.

DR. GRANDIN inquired why galvanism had been used in preference to faradism. The latter was so much more convenient and portable that it was a question of no small importance to physicians outside of cities to be satisfied that it was as effective and safe. Did Dr. Harrison think there was liability to rupture of the sac from the use of faradism?

DR. HARRISON thought there was greater probability. He had, however, used galvanism because it had previously answered him well, and it was highly indorsed by Rockwell. He believed there was an instance on record where rupture had followed on galvanism.

DR. GRANDIN presumed reference was made to Janvrin's case, but that in that instance the rupture could hardly be laid to the galvanic current, seeing that it had not been applied for fully eighteen hours previous to the rupture. He questioned if the danger of rupture from faradism was greater, and this current was far more convenient to use.

THE PRESIDENT stated that he had used galvanism in one case and had found it most effective. He had seen the case in June of last year, and the diagnosis could not be questioned. He asked as to where the poles should be placed by preference. In this instance, he had placed one pole in the rectum and the other in the vagina.

DR. BACHE EMMET said that the rule for placing the electrodes should be to include the sac as much as possible between them. The choice of location therefore would depend on the site of the sac. In the case which he had recorded, he had used from sixteen to eighteen cells, and he believed the gestation was abdominal.

#### ACCIDENTS FOLLOWING THE INJECTION OF COCAINE.

DR. DUDLEY referred to three cases where the injection of cocaine had been followed by alarming symptoms. In two instances, he had injected the solution into the cervix preparatory to curetting the uterus, and in the third he had used it before the removal of a syphilitic wart from the margin of the anus. The strength of the solution was ten per cent, and the amount injected about fifteen minims. One of the patients was out of her senses. In all there was great depression, and he had no control over them.

DR. GRANDIN had noted similar effects in a single case from the use of four-per-cent solution, but in this instance he had concluded that the symptoms were hysterical.

DR. DUDLEY said he could absolutely rule out hysteria in the instances he had seen.

DR. BACHE EMMET had witnessed the same effects on three sepa-

rate occasions from the injection of one minim of a five-per-cent solution. The girl was not at all hysterical, although very impressionable. He had often freely applied a ten-per-cent solution to the surface with no bad effect whatsoever.

DR. DUDLEY said that such symptoms were only likely to develop when the drug entered the circulation, as it did when injected. He had never noted them when the drug was used on the surface.

THE PRESIDENT stated that he had operated a number of times under cocaine, but had not been well satisfied with his results. The patients had been hysterical afterwards. This fall he had operated on a large laceration of the cervix using a four-per-cent solution of cocaine as an anesthetic. He had never taken greater care in an operation and yet all the sutures had given way but one. The cocaine seemed to interfere with results in plastic operations and he would not use it in the future.

DR. MORRILL did not believe that the symptoms were hysterical. He referred to an instance where Dr. Coe had painted a small ulcer of the lip with a four-per-cent solution and great depression followed.

DR. BACHE EMMET inquired if there was any test by which the purity of cocaine could be determined. The drug was being greatly adulterated.

#### PECULIAR CYSTIC TUMOR IN AXILLARY SPACE OF AN INFANT.

DR. MURRAY related the history of a case on which he had operated three months previously. He saw the case for the first time in June when the child was seven years old. The mother told him that at birth the child had a fulness in the right axillary space and this had gradually increased until, when he saw the case, the tumor extended from the third rib and posterior part of the axillary space to in front of the nipple. The tumor was soft and lobulated, movable, and covered with a peculiar bullous eruption. There was no fluctuation, and he considered it a fatty tumor. On removal it proved to be a cystic growth made up of many lobules filled with serous fluid. The operation was an exceedingly difficult one, owing to the bands of connective tissue separating the lobules. Union was complete on the eighth day, when, although every possible antiseptic precaution had been taken, erysipelas set in and a large abscess formed, which required a deep incision. Recovery was ultimately complete. A tumor of this nature in this locality was exceedingly rare and very difficult of diagnosis. He had wondered whether it was originally fatty and had later become cystic.

DR. ABBOTT inquired if the ribs were perfect.

DR. MURRAY replied that there was no connection either with the pleural or intestinal cavity.

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

---

*Thursday, November 3d, 1887.*

*The President, T. M. DRYSDALE, M.D., in the Chair.*

DR. ROBT. H. HAMILL reported a case of

### PUERPERAL MALARIAL FEVER, SIMULATING SEPSIS.

In the AMER. JOUR. OBST., April, 1880, Dr. Fordyce Barker called attention to a peculiar febrile derangement, known as Puerperal Malarial Fever. It is of paramount importance to the obstetrician to know whether or not he has to deal with a disease that is the result of carelessness, or one of miasmatic origin. The following case, which I wish to add to the list, seemed to be caused by a miasmatic influence, rather than one of septic origin. I shall only give the prominent points which led me to believe that it was of malarial nature. The patient was delivered of a premature still-born child, labor being complicated by placenta previa and induced. It was reported at the September meeting of the Society. Twelve hours after labor had ended, the temperature had risen to  $101\frac{1}{2}^{\circ}$  F. but the patient was otherwise in good condition. The following day her temperature had fallen one degree. In the evening of the third day, she had a severe chill lasting fully twenty minutes and followed by fever and profuse sweating. From the fact of labor being complicated as before stated and version having been performed, I very much feared I had a case of sepsis to deal with; but after learning that during her pregnancy she suffered considerably, at times, from an illly defined feeling of lassitude, and "an aching of her whole body," and further that the street in which she had lived had been in miserable condition, stagnant pools of water being allowed to remain, thus creating a favorable nidus for the germs of malaria, I felt much relieved. In addition to this history and much to my delight, the woman had another severe chill, followed by the fever and sweating stages. These chills continued occurring daily until the ninth day, decreasing in severity each day. At times there was slight delirium. Almost from the first the patient was taciturn and later on became very weak, with a feeble rapid pulse. There was no pelvic pain or tenderness, and little if any tympany. No odor to the lochia which were normal in quantity. Vagina and appendages perfectly healthy. The blood was not examined because quinine had been given from the first. Very little change took place in her



condition until the seventeenth day, when there was an abatement in all her symptoms and convalescence was very rapid. The treatment consisted chiefly in the administration of large doses of quinine and stimulants. The amount of quinine taken without producing any symptoms of cinchonism was greater than I have ever known. In one dose she got thirty grains, followed in two hours by thirty grains more. Quinine seemed to have no effect until used in the form of Warburg's tincture, notwithstanding it had been given in one large and in smaller oft-repeated doses. After the patient began to convalesce, she did not have an unfavorable symptom and is now fully recovered.

DR. J. L. LUDLOW spoke of the history of Warburg's tincture and of the difficulty of obtaining a preparation in accordance with the original recipe. He had succeeded in having an exact preparation made by a druggist of this city, and it had yielded him results far better than he could obtain with quinine or any other combination of it. He had used it at Eddystone with great success.

DR. DRYSDALE had had wonderful effects from Warburg's tincture.

DR. B. C. HIRST spoke on

#### CATHETERIZATION OF THE URETERS.

After seeing the ureteral catheters that were shown by Dr. Kelly at the last meeting of the Society, and hearing his commendation of them, a case came under my observation in the Maternity Hospital which seemed eminently suitable for the application of these instruments as an aid in arriving at a correct diagnosis. The clinical history of the case is briefly as follows. A young primagravida was found to have both pus and albumin in her urine, which condition persisted after delivery. The case was treated as one of cystitis by vesical injections, but without much benefit. Some three weeks after the delivery, the quantity of urine excreted in twenty-four hours became decidedly lessened, while the amount of pus became both actually and relatively much decreased. At the same time the temperature rose to 104° and there was considerable pain over the region of the right kidney. This history would, of course, have led one to suspect "lithogenic pyelitis" resulting in the formation of a stone in the pelvis of the right kidney, which had suddenly plugged up the outlet from the kidney and had thus diminished the quantity of urine and decreased the amount of pus. An answer to the following questions was desirable. 1st. Was the *right kidney* chiefly affected or was the pain on the right side referable to a morbid condition of the left kidney?—a possibility to which attention has been called, especially by Knowsley Thornton. 2d. Were both kidneys diseased or was one healthy? 3d. Did the pus really come from the kidneys or was it confined to the bladder? I was able to solve these problems by the use of the ureteral catheters

which Dr. Kelly was kind enough to lend me. The ureters were made out without difficulty by bimanual palpation, and the catheters, first the metal and then the flexible were introduced with ease; the flexible catheter being pushed up the right ureter a distance of eight and a half inches. The specimens of urine, collected in separate test tubes from each kidney, showed on inspection a much greater turbidity in that from the right than in that from the left kidney. A microscopic examination revealed pus in both specimens, but in that from the right side in much larger amounts than in the specimen from the left kidney. In the urine from the left side, a well-defined granular cast was found. I can say then: 1st. That the pus came from the kidney. 2d. That both kidneys are diseased; but the right is most markedly affected. 3d. That there is not only pyelitis, but pyelo-nephritis in the left kidney. Arriving thus at a precision in diagnosis that would be impossible without the aid of the ureteral catheters.

DR. HAMILL had since the last meeting palpated the ureters without difficulty and had passed the catheter into them. The ureters were about the size of the little finger.

DR. KELLY has since the last meeting operated successfully for the relief of a ureteritis in an unmarried young woman; the pelvic organs were healthy. The inflammation was confined to the orifices of the ureters. He experienced no difficulty in passing the catheters.

DR. PHILIP M. SCHIEDT read a paper on the

#### DELIVERY OF THE AFTER-COMING HEAD.<sup>1</sup>

DR. WM. GOODELL had been struck by what seemed to him a great, although common mistake, trying to secure flexion of the head in breech deliveries. In a flattened pelvis, it is better for the head to descend in a transverse position, so as to enable its shortest diameter, the bi-temporal, to correspond to the short diameter of the pelvis, the antero-posterior. In a justo-minor pelvis, the operator would be justified in trying to secure flexion. The fingers in the fetal mouth are useless for good, but there is danger of breaking the jaw. The forceps is the only proper aid in the expulsion of the after-coming head. One objection often made to their use is the loss of time involved in their application, but this does not hold. The accoucheur should be acquainted with the form of the patient's pelvis. The body of the child should be held away, so that the forceps can be applied to the sides of the head, the handles being on the anterior aspect of the child's body. Another point to bear in mind in a flattened pelvis is the problem of bringing the head safely around the promontory of the sacrum. The hand should grasp the neck of the child, the thumb being on one side and the fingers on the other, and traction should be made so as to ease the head around the promontory before securing rotation of the face into the hollow of the sacrum. After this it would be easy to make the chin engage or to apply the forceps.

DR. CLEEMANN has never met with any difficulty in delivering the face in head-last labors.

<sup>1</sup> See original articles in this number.

DR. M. PRICE makes it a rule to have his forceps ready in breech deliveries. He has the body held out of the way and has had no trouble in putting on the forceps. He has had but one death in a breech presentation. On that occasion he had not his forceps with him.

DR. W. S. STEWART prefers breech to head presentations. He has not had trouble in applying the forceps.

DR. LONGAKER laid great stress upon the necessity of avoiding mismanagement in the early stages of a breech delivery; there should be no immediate haste. If the legs are seized and drawn upon, the body is quickly delivered without securing dilatation of the os uteri and the arms become extended beside the head in the grasp of the lower segment of the uterus; forcible extraction at this stage is a frequent cause of extensive laceration and has caused death of the mother. He agrees with Dr. Goodell as to the treatment of these cases in flattened pelvis; the adaptation of the bi-temporal diameter to the direct conjugate should be secured and the obliquity of Nagele should be maintained until the anterior base has well descended into the cavity of the pelvis. The late Dr. A. H. Smith laid great stress on the propriety of using the forceps to assist in the delivery of the after-coming head. In applying the forceps, flex the body of the child towards the dorsum; the handles of the forceps should be on its anterior aspect. Pressure over the head of the child, while the body is swept toward the belly of the mother, is not a good or safe method; the amount of traction required to extract the head is too great for the neck to bear. The forceps should be in readiness to apply as soon as the body has escaped from the vulva.

DR. ELWOOD WILSON thought it a common mistake to hurry the delivery of the body of the child. When dilatation of the os is complete, the child will descend with the arms folded on the body. He is as strong an advocate of the application of the forceps to the after-coming head as any man can possibly be.

DR. J. C. MORRIS could understand the defense for making traction on the lower jaw by putting one finger in the child's mouth. When the buttocks are emerging, very slight traction will cause extension of the head, but if a hand is passed along the anterior aspect of the child's body and one finger introduced into its mouth, the extension of the head might be prevented. He did not think this defence a good one, as traction on the lower jaw could not be effective. He would quite as lief have a breech as a vertex presentation. The forceps should always be at hand, and there is no difficulty in putting them on. There is need of quick action. Traction on the neck of the child may be productive of great injury. He has known it to result in death, and in loss of power in the lower extremities.

DR. SCHIEDT wished to emphasize the necessity for the use of the forceps, as the subject has been so slighted in modern medical literature.

DR. LONGAKER exhibited the ether inhaler and can combined, devised by Dr. Young, of Bridgeport, Conn. He had found it very useful in using chloroform in labor.

DR. BALDY took exception to Dr. Longaker's statements that fresh air passed through the instrument at every inhalation and that the patient received a saturated ether vapor, as he considered them conflicting. He preferred the folded cone-shaped towel.

## EXPLORATORY INCISION.

DR. MONTGOMERY reported the following case, seen with Dr. E. R. Stone:

Mary G., æt. 28 years, married, but not living with her husband. She had noticed for some two months a swelling of the abdomen; this became so marked that Dr. Stone had twice during this time emptied the abdomen by means of a trocar. The fluid was plainly ascitic. When Dr. M. was called, the abdomen was again quite well distended; the resonance was that of ascites. Vaginal examination disclosed a mass, quite resistant, situated upon either side of the uterus. The rapidly recurring ascites, with the solid mass in the pelvis, aroused the suspicion of a malignant condition. An exploratory incision was advised, and was made at the Med. Chir. Hosp., Oct. 1st, 1887, Drs. Drysdale, Warder, and Stewart assisting. Upon opening the abdomen, two gallons of ascitic fluid were removed, and the tumor presented itself. It was covered with papillary growths, which extended also over the posterior surface of the uterus into Douglas' pouch and over the whole of the left side, so that removal was out of the question. The abdomen was thoroughly sponged out, and the wound closed and bandaged. The following day frequently repeated doses of salines were given to produce watery evacuations and drain the peritoneum. She was allowed but little liquid. There was slight elevation of temperature, reaching 100° on the second day. The wound had healed completely at the end of the week. She left the hospital in two weeks, much improved in appearance and without any appearance of return of the ascites. Since her return home there has been a re-accumulation. Microscopical examination showed the growth to be an ovarian papilloma.

DR. MONTGOMERY exhibited an

## INTRAUTERINE FIBROID

as large as an orange. It had been removed from a single lady, æt. 45 years. She had been suffering from hemorrhage for over three years, but had never been subjected to an examination. A fibroid tumor was found projecting into the uterine cavity from the posterior wall. She was admitted to his private hospital on June 22d, and a large laminaria tent introduced to dilate the canal. The following day, assisted by Drs. W. H. and C. B. Warder and West, he operated. The patient was placed in the lithotomy position, the vagina held open by retractors, the uterus secured by a ligature through the anterior lip. The tumor was adherent over the whole of the posterior surface. It was enucleated as far as the finger could reach, and, finding that the mass was quite large, the cervix was split to the lateral fornix of the vagina on either side, and the enucleation completed by the ser-

rated curette. After separation of the tumor, great difficulty was experienced in its removal. The tenaculum and vulsella were repeatedly pulled out before the uterus was sufficiently dilated to permit the delivery of the mass. A drainage tube was inserted, and the cervix closed by three sutures upon either side. The tube was removed on the third day. There was no rise of temperature until the seventh day, when it ran up to 103°, and some cellulitis was found upon the left side. This soon subsided under treatment, but the patient regained her health very slowly. She is now well.

DR. MONTGOMERY presented a specimen of

#### HEMATO-SALPINX.

Mrs. K., æt. 26 years, married twice (two children by her first husband), missed her menses in May, but had a natural flow June 9th. Towards the end of June, she felt badly, and so continued until July 11th, when she was suddenly taken with violent pain in the right side. A homœopathic physician was called; the severe pain soon abated. Later he discovered a lump in the inguinal region; this he considered a forming abscess. He attended her for four weeks, during which time she was kept in bed by pain in the abdomen, and a bearing-down or sense of weight greatly aggravated by the sitting or standing positions. Becoming discouraged, she called in Dr. E. Santee, who asked me to see her in consultation. She was a very slight, girlish woman, looking not over 16 years of age, pale, anemic, very nervous, and anxious. Upon the left side of the abdomen could be felt a circular mass, three inches long by one and a half in diameter, freely movable, not especially tender. Per vaginam was felt a globular mass protruding the posterior wall of the vagina, and filling up Douglas' pouch, and apparently continuous with the uterus. It was at first supposed that it was a retroverted pregnant uterus. More careful examination under ether disclosed fluctuation and the uterus occupying an anterior position, but slightly enlarged. An operation for removal was advised, though a diagnosis was not certainly determined. She entered my private hospital August 24th, where, assisted by Drs. Warder, Santee, and West, the abdomen was opened. In raising the tumor on the left side, it was slightly ruptured, dark, grumous blood escaping. Its pedicle was closely connected with the uterus, and examination showed it to be a dilated Fallopian tube. Passing the hand behind the uterus, the pelvis was found filled with an encysted mass which proved to be clotted blood. This was scooped out by the handful, the abdomen thoroughly washed out, the left dilated Fallopian tube removed, and the wound closed. The temperature before the operation was 100.4°; in the after-part of the same day it rose to 100.6°, which was the maximum reached during the convalescence. The wound was healed when the dressing

was changed at the end of one week. The sac, when opened, contained a firm clot of blood, and from its appearance and the history he believed that an extrauterine or tubal pregnancy had ruptured, causing the hemocele.

OVARIAN FIBROMA.

Dr. Montgomery, for Dr. W. H. WARDER, exhibited the tumor and read the history: Miss M—, age 40, American, saleswoman, quite stout; when first seen, was suffering from acute diarrhea. She had been failing in health for two years. Enlargement of the abdomen was noticed about one year ago. I found the abdomen occupied by a large quantity of ascitic fluid in which floated a large, solid tumor. There was no edema of the extremities or the walls of the abdomen. The tumor was removed, at my private hospital, September 20th. When the abdomen was opened, I found it necessary to enlarge the incision to eight inches before the tumor could be removed. It was adherent to a coil of intestine, and occupied the position of the left ovary. The right ovary was in place and perfectly healthy. The pedicle was ligated, the tumor removed, and the peritoneum carefully stitched over the end of the stump. The tumor was regular in surface, rounded, and of a cream color. Highest temperature 100.6° on the third day. There was some pain and vomiting during the first twenty-four hours; on the second day gave magnes. sulph. 3 ss. every two hours, until the bowels were freely moved. She left the hospital five weeks from the day of entrance, and now feels perfectly well. The tumor was examined microscopically, and seemed to be a *soft fibroma of the ovary*—one of the rarest forms of ovarian tumor.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

---

*Wednesday, November 23d, 1887.*

JOHN WILLIAMS, M.D., *President, in the Chair.*

This was a special meeting of the Society for the discussion of the treatment of extrauterine gestation during the latter months of pregnancy.

A paper was read by DR. HERMAN

ON DELIVERY BY THE VAGINA IN EXTRAUTERINE GESTATION.

The author said that no general rules could be applied alike to all cases of extrauterine gestation, and at all periods of their his-



tory. Different cases required different treatment, and individual cases required different treatment at different periods in their history. The object of the paper was to consider in what cases, and at what time, an extrauterine gestation cyst might with advantage be emptied through the vagina.

The author first related a case under his own care. The patient was aged 40. The extrauterine pregnancy was preceded by a long period of sterility. Symptoms like those of rupture of the sac occurred at about two months' pregnancy. Fetal movements ceased at eight months' pregnancy. At nine months spurious labor pains occurred, and lasted nearly a month, and these labor pains were accompanied by spontaneous dilatation of the cervix. Then the pains went off, the breasts diminished in size, and the cervix contracted. To attain certainty as to the diagnosis, the cervix was subsequently dilated, and this dilatation was followed by febrile disturbance. The cyst was then opened *per vaginam*, the child removed, and the cyst frequently washed out with carbolic solution. The placenta came away on the sixteenth day. Two and a half months afterwards the cyst had completely closed.

The author had collected thirty-three cases in which an extrauterine gestation cyst had been emptied by the vagina, and from an examination of them he drew the following conclusions :

1. The operation of opening an extrauterine gestation sac by the vagina early in pregnancy, before rupture has taken place, by the cautery knife or otherwise, is a dangerous and unscientific proceeding. Abdominal section ought always to be preferred to this.

2. Soon after rupture has taken place, when interference is called for to arrest hemorrhage, abdominal section is more likely to succeed than vaginal.

3. When rupture has taken place, and the effusion of blood is followed by pyrexia, the indications for incision of the vagina are the same as those in hematocele from any other cause. AST

4. At, or soon after full term, before suppuration has taken place, there may be conditions which indicate delivery by the vagina as preferable to abdominal section. These are :

5. When the fetus is presenting with the head, breech, or feet, so that it can be extracted without altering its position, and

6. When it is quite certain, from the thinness of the structures separating the presenting part from the vaginal canal, that the placenta is not implanted on this part of the sac, and it is not certain that the placenta is not implanted on the anterior abdominal wall.

7. If the child cannot be delivered by the vagina without being turned, abdominal section should be performed.

8. No attempt should be made to remove the placenta.

of their his-

9. The after-treatment should consist in frequent washing out of the sac.

10. After suppuration has taken place, the spontaneous opening of the sac into the vagina is one of its more favorable terminations.

DR. CHAMPNEYS read a paper

ON "PRIMARY LAPAROTOMY" (THAT IS, ABDOMINAL SECTION IN THE LATTER HALF OF PREGNANCY, THE CHILD BEING ALIVE) IN CASES OF EXTRAUTERINE GESTATION.

He had performed the operation in the seventh month of pregnancy for persistent and increasing pain and orthopnea. The placenta was left, drainage was attempted, but the wound could not be kept open. The decidua was discharged on the twenty-fourth day. All went well till the thirty-second day, when symptoms of the separation of the placenta began, and the patient died, with symptoms of septic intoxication, eleven weeks and a half after operation. Post mortem the placenta was found detached; no hemorrhage of importance had taken place; it lay in a nest of intestines and adjacent organs.

The only other cases which he had been able to find had been performed by Heim, in 1813; Hauff, in 1842; Koeberle, in 1853; Sale, in 1870; Meadows, in 1872; Jessop, in 1877; Gervis, in 1877; Spiegelberg, in 1876; Heywood, in 1877; Fraenkel, in 1878; Vedeler, in 1880; Tait, in 1880; Schroeder, in 1879; Wilson, in 1880; Litzmann, in 1880; Martin, in 1881; and Netzel, in 1881.

Out of these eighteen cases, the mothers had recovered in only two, those of Jessop and Martin; the principal factors of the mortality being hemorrhage and septicemia. The placenta was left *in situ* in ten cases, including that of Jessop; removed in three, including Martin's; and partially removed in four; while in one instance its treatment is not mentioned. Eleven of the children died within forty-eight hours; and of the eight (one pair of twins) that lived, several succumbed within a year. Four are noted as having been deformed.

DR. JOHN WILLIAMS then related

A CASE OF EXTRAUTERINE PREGNANCY IN WHICH ABDOMINAL SECTION WAS PERFORMED DURING THE LIFE OF THE FETUS AT THE THIRTY-FIFTH WEEK OF GESTATION.

The patient was 30 years of age, and had had one child nine years before. She was admitted into University College Hospital when about four months pregnant. For six months she had suffered from almost continuous hemorrhage, but this ceased about the time that conception took place. She then suffered from attacks of pain in the right iliac fossa, and when pregnancy had advanced into the fourth month, she had severe pain in that place,

hemorrhage from the uterus, and general peritonitis. A decidua membrane was also expelled.

When admitted into hospital in February, 1885, she was suffering from peritonitis. She remained in hospital till August. The growth of the cyst and of the placenta was observed and described. In the thirty-fifth week, the abdomen was opened and a living child removed. The placenta was left. The subsequent progress of the case towards recovery was detailed.

MR. DORAN showed specimens which illustrated the changes which the placenta underwent after term, and he related a case under his care. The patient menstruated for the last time in April, 1885. In January, 1886, labor pains and metrorrhagia occurred. Diagnosis was uncertain for several reasons. In April, 1886, an exploratory operation was performed. A very malignant looking tumor was exposed, dark red in color, and, on plunging in a trocar no fluid escaped. Believing that the tumor was malignant, Mr. Doran proceeded at once to remove it lest fatal hemorrhage should occur before its vessels could be secured. In raising the tumor it burst posteriorly and a large fetus escaped. A clamp was passed round the base of the tumor, and it was cut away. The patient died, probably owing to injury to the intestine. The dark-red mass in the front proved to be placenta hypertrophied and much altered.

MR. KNOWSLEY THORNTON was happy to be able to agree in the main with the propositions formulated by Dr. Herman. With 1 and 2 he entirely agreed. He thought that 3 was hardly precise enough, as there might be great differences of opinion as to the treatment of hematocele under such conditions; he should be strongly in favor of abdominal section. He did not know the grounds Dr. Herman had for believing in the absorption of the fetus, but he knew from clinical observation that the blood effused in these cases was not readily absorbed, absorption being very different to that with which we are familiar in large fresh outpourings of blood such as hematoceles. As to the question of operation through the vaginal wall, he doubted whether, in most cases, the diagnosis could be as easily made as Dr. Herman would lead one to suppose, and he did not think the risk of injuring a coil of intestine was a small one, though this was not mentioned by Dr. Herman. He thought, with the present means of controlling hemorrhage, the possibility of the placenta being situated on the abdominal wall need not be such an alarming complication of abdominal section as to influence the choice of operation.

Passing to Dr. Champneys' case, he would say that the whole question of primary laparotomy hinged on perfect diagnosis, and knowing how often there was something wrong with the child in these cases, he would disregard it altogether, and simply consider the mother, and urge that operation should follow at once on certain diagnosis. The whole difficulty was in making such certain diagnosis. He could not understand Dr. Champneys' treatment of the placenta. If it was left, there ought to be certainty of asepsis (very difficult to attain in these cases) or an opening should be kept till the placenta was discharged. Dr. Champneys

knew it was attached to intestines, the very situation of all others in which it was likely to become septic or a source of dangers. His own cases on the table were mostly excluded, owing to the restriction of the debates to a certain class of cases.

DR. W. S. GRIFFITH showed a series of specimens from the Bartholomew's Hospital museum, and a six months' fetus removed by Dr. Godson by vaginal incision about ten days after its death. The head presented at the posterior vaginal fornix and was delivered by craniotomy. The placenta was detruded on the sixth day and removed. There was no hemorrhage at or after the operation. The parts were kept aseptic by frequent irrigation and iodoform, and the patient left the hospital well three weeks after the operation.

THE PRESIDENT said that hitherto the difficulties in the treatment by laparotomy of extrauterine pregnancy, while the fetus was alive, had been the risk of septicemia and of hemorrhage. Antiseptics had greatly reduced the former, but the danger of hemorrhage in so far as was known remained the same. Hemorrhage was of two kinds, one occurring during the operation from injury to the placenta, and the other after the operation from separation of the placenta. Further observations may enable us to diagnose the presence or absence of the placenta on the anterior abdominal wall, and to avoid it in performing the operation. The danger from the second form occurred in the same degree after the death of the fetus, and we know of no safe way of dealing with it. The prevention of septicemia, and the power of diagnosing the placental site would contribute greatly to the most successful treatment of these cases.

MR. LAWSON TAIT regretted the restriction of the debate to a certain class of cases only. He felt that little was left for discussion. There were three points about which something might be said. The first was as to the fear of meddling with the placenta, and he entirely agreed with what had fallen from Mr. Knowsley Thornton, and differed from those remarks made by the President that, with our modern appliances, we had no need to fear hemorrhage. Mr. Tait had recently operated on a case in which the placenta had, to a large extent, left the ruptured Fallopian tube, and obtained attachment to the posterior wall of the uterus and some coils of intestine. When disturbed, pretty free internal hemorrhage took place. The stripping of the placenta was proceeded with as far as necessary, the bleeding points touched with solid perchloride of iron, and no more hemorrhage was heard of, and the patient made a good recovery.

The next point of interest was the growth of the placenta after the death of the fetus. Mr. Tait used to disbelieve that this growth occurred, but there could be now no question that it did so in a large number of these cases. This being so, what was the use of destroying the fetus by electricity, as the placenta continued to grow, and it was not the fetus that was a source of danger, but the placenta?

The third point was the difficulty of diagnosis, and his experience was precisely that of Mr. Thornton's, but he never allowed any uncertainty to stand in the way of trying to save his patient, and he in doubtful cases opened the abdomen.

Dr. Galabin and Dr. Grailey Hewitt made some remarks, and then Dr. HERMAN in reply said it was impossible to adduce evidence that absorption of the fetus and effused blood took place because such cases recovered. He thought that many cases of pelvic hematocele that ended in recovery were probably due to unsuspected extrauterine gestation. Leopold had made some experiments on animals that supported this opinion. He opened the uterus in animals a little way advanced in pregnancy, and turned the embryos into the peritoneal cavity. He found that they were absorbed. Dr. Herman was inclined to agree with Mr. Thornton that if a hematocele required opening it was better to open it by the abdomen than by the vagina, unless the latter course was specially indicated. He did not think there was difficulty in recognizing the fetal head when it occupied Douglas pouch, and the placenta did not intervene. The sutures could often be felt, and then there need be no fear of wounding the intestine.

The condition of the placenta was of great importance. There were two kinds of placenta met with in extrauterine gestation. One kind was thin and spread out, having extensive attachments difficult of complete removal, and much more difficult at times than at the fourth month, as in Mr. Tait's case.

There were others in which the placenta formed a thick, solid mass, and in this kind the vascular attachments to the maternal structures were much less extensive, and the placenta could be removed without great difficulty. He had exhibited such a one to the Society which he had successfully and quite easily removed.

Judging from the cases at present known to him, he thought this placental growth took place after the death of the fetus. It would help greatly in treatment if we could diagnose the condition of the placenta before operation.

Dr. CHAMPNEYS, in reply to Mr. Thornton, said that both the paper and abstract plainly stated that, with the exception of four transient rises of temperature during the first six days, the temperature was normal, and the patient remained well for thirty-three days. He thought this was evidence that the operation was aseptic. Mr. Thornton had said that the author should not have allowed the wound to close. As a fact he had done his best to prevent it. He left the cord hanging out, and put two large drainage tubes in. When the cord became adherent to surrounding parts, and the drainage tubes absolutely blocked by organized lymph, he felt powerless to prevent it. In Dr. Braithwaite's case, the placenta never came away, and in other cases the placenta has not only lived, but grown after the death of the fetus, and he did not know why the placenta in his case should not do the same if kept aseptic, which he had no doubt it was. In another case he would act as he had done in this, except that he should operate a second time if need be, and try and remove the placenta. He had pointed out that in several respects his case was unique, and thus he was deprived of the guidance of other cases.



## REVIEWS.

CYCLOPÆDIA OF OBSTETRICS AND GYNECOLOGY. By A. CHARPENTIER, Adjunct Prof. Faculty of Medicine, Paris; R. CHROBAK, Prof. Gynec. Univ. of Vienna; A. HEGAR, Prof. Obst. and Gynec., and Director of the Gynecol. Clinic, Univ. of Freiburg; R. KALTENBACH, Prof. Obst. and Gynec., and Director of the Gynecol. Clinic, Univ. of Giessen; R. OLSHAUSEN, Prof. Obst. and Gynec., Univ. of Halle; TH. BILLROTH, Prof. Surg., Royal Univ. Vienna; A. GÜSSEROW, Prof. Obst. and Gynec., Univ. of Berlin; F. WINCKEL, Prof. Obst. and Gynec., Royal Univ. Munich; A. BREISKY, Prof. Obst. and Gynec., Royal Univ. Vienna; P. MÜLLER, Prof. Obst. and Gynec., Univ. of Berne; E. BÖRNER, Prof. Obst. and Gynec., Univ. of Graz; L. BANDL, Prof. Obst. and Gynec., Univ. of Prague; and P. ZWEIFEL, Prof. Obst. and Gynec., Univ. of Erlangen. Translated under the supervision of, and with notes and additions by EGBERT H. GRANDIN, M.D., Obstetric Surgeon to the New York Maternity Hospital; Instructor in Gynecology at the New York Polyclinic; Fellow of the New York Obstetrical Society, etc. In twelve volumes 8vo, pp. 4,719; 1,538 wood engravings; 8 chromo-lithographic plates. Wm. Wood & Co., New York, 1887.

The phenomenal sales of this work tell in the most conclusive manner of the appreciation of its sterling worth by the profession. Several times the number at first thought necessary for the edition have already been exhausted and the demand rather increases than grows less. No more gratifying tribute than that which these facts represent can be paid either to the energy and good business sense of the publishers of the work, or to its editor Dr. Grandin, whose additions and notes have rendered the volumes an exponent not only of the more advanced French and German ideas, but of the best in American practice as well.

When the original volumes appeared, they were reviewed *in extenso* in this JOURNAL (see Vol. XIX., pp. 771, 886, and 1,007) by the one who is their present editor, and the meed of praise then given them is applicable now, while the few points censured have been modified by the added notes and criticisms.

Charpentier's treatise, which occupies the four volumes making up the obstetric portion of the encyclopedia, is generally conceded to be a faithful and unbiassed mirror of the theories and practice of the most renowned obstetricians of the world. The first volume includes the Anatomy of the Genitals, Menstruation, Fecundation, Normal Pregnancy, and Normal Labor; the second treats of the Pathology of Pregnancy; the third, of the Pathology of Labor, and the Use of Ergot; the fourth, of the various Obstetrical Operations, and the Pathology of the Puerperium. These subjects are discussed with a characteristic thoroughness and in a strikingly lucid and practical way.

(For previous notice see Vol. XX., this JOURNAL, page 664.)



In Volume V., the beginning of the gynecological portion of the encyclopedia, Chrobak fully discusses General Diagnosis and Therapeutics. The last hundred pages of this volume are devoted to the consideration of the Uses of Electricity in Gynecology and Obstetrics by Dr. Grandin. He treats the subject succinctly, clearly, and in an eminently practical manner, utilizing in particular the teachings of Apostoli, Tripier, Mundé, and Engelmann. He shows that electricity, as applied to the female sexual organs, is safe, easy of application, practically painless, and often curative. We are safe in saying that its general acceptance can be but a matter of a short time, and that "every gynecologist must learn how to use the agent in accordance with the methods of the present, if he would not be left far behind in the race for success."

In Volumes VI. and VII., Hegar and Kaltenbach take up Gynecological Examination; Minor Therapeutic Manipulations and Elementary Operations; Operations on the Ovaries, Tubes, Uterus, Broad Ligaments, Round Ligaments, and Vagina; Operations for Urinary Fistulæ and Prolapsus; Operations on the Vulva and Perineum. Volume VIII., by Olshausen, offers us a most admirable exposition of what is known in regard to Diseases of the Ovaries and their treatment. Volume IX. takes up Diseases of the Female Mammary Gland, by Billroth, and New-Growths of the Uterus, by Gusserow, both subjects being handled in a masterly manner. Volume X. includes Diseases of the Female Urethra and Bladder, by Winckel, and Diseases of the Vagina, by Breisky; Volume XI., Sterility, Developmental Anomalies of the Uterus, by Müller, and the Menopause, by Börner; and Volume XII. Diseases of the Tubes, Ligaments, Pelvic Peritoneum and Pelvic Cellular Tissue, and Extrauterine Pregnancy, by Bandl, and Diseases of the External Genitals, and Lacerations of the Perineum, by Zweifel.

In all these volumes, at points where practice and opinion have changed, the editor has added the requisite new matter, to bring the work up to date, and has also criticised such methods as have seemed to him not completely in accord with the views of the American profession. These additions and notes, which add greatly to the value of the work (and which throughout the entire series are inclosed in brackets), have necessitated slight condensation of the text in some of the volumes, though nothing has been omitted at the expense of the author's thought or of the value of the work as one of reference.

Whenever necessary, new cuts have been added, or have been substituted for the inferior ones of the original. The indices are not encumbered with unnecessary detail, but are sufficiently complete to allow of easy reference. The work of the translators—the medium through which we reach the author's meaning—though not in all parts so clearly transparent as to escape notice, is on the whole satisfactorily done. In a few places, we notice traces of hasty proof-reading, as shown in an occasional misplaced letter.

These volumes make up the best work of the kind within the reach of the profession. They must, of necessity, because of their comprehensiveness and advanced character, remain a standard for some time, and will always be of value as a work of reference. These facts, together with the beauty of the binding,

which makes the set an ornament to any library, the wonderful cheapness at which it is sold, and the fact that now the whole can be purchased at once, make it an exceedingly tempting investment to any physician, and one which will bring him rich returns of added knowledge.

THE PRACTICE OF MEDICINE AND SURGERY APPLIED TO THE DISEASES AND ACCIDENTS INCIDENT TO WOMEN. By W. H. BYFORD, A.M., M.D., Professor of Gynecology in Rush Med. Col., and of Obstetrics in the Woman's Med. Col., Surgeon to the Woman's Hospital of Chicago, etc., and by HENRY T. BYFORD, M.D., Surgeon to the Woman's Hospital of Chicago, Gynecologist to St. Luke's Hospital, etc. Fourth edition, revised, rewritten, and much enlarged, with three hundred and six illustrations. Pp. 820. P. Blakiston, Son & Co. Philadelphia, 1888.

The fourth edition of this well-known treatise appears with so many revisions, rewritten sections, and additions that it has grown to be hardly recognizable and practically deserves the attention of a new work. It represents largely the results of the author's own experience and borrows but little from the labors of others. The style is not always clear and errs at times in an over minuteness of detail.

Some of the more prominent points in which it differs from other text-books on the diseases of women are these: In the first chapter—practical observations on the anatomy and physiology of the female pelvic organs—the division of the uterine supports into three systems: the pelvic roof, the pelvic floor, and the perineum proper, is described in an original and thorough manner, some observations regarding the control of the pelvic floor by the will, the relations of the pelvic floor and perineum to abdominal pressure, and a study of the perineal body being particularly new and interesting. The section on the digital examination of the female pelvic organs—certainly the most scientific exposition of the technique of bimanual palpation that we have yet seen—is remarkable in the clearness, originality, and completeness of the instruction given, and as a study of the anatomy and relations of the pelvic structures as they are encountered clinically. The information it gives must be of value to any gynecologist, even though through it his *tactus eruditus* may not be brought quite to that perfection which will enable him to recognize, as the authors would have him, any and all of the pelvic structures, or to differentiate in even the majority of cases between an ovarian ligament and an interstitial salpingitis. An original method of palpation and catheterization of the ureters by vaginal touch, which differs in some particulars from that of Kelly, is clearly described; Byford stating that the corrected proof of this part of his work was already in the printer's hands before Kelly's paper was read. The section upon lacerations of the perineum and pelvic floor is another original and characteristic chapter. The subject is in general admirably treated. After discussing the differential diagnosis, perineal tenotomy, *et cetera*, he describes several original forms of denudation for perineorrhaphy, insisting strongly upon a rational understanding of the object of the procedure and the modification of the method to suit each particular case. The peg upon which a criticism may be hung here is the minute subdivision of the forms of perineal tears, for we are introduced to *twenty-three*

separate varieties, accompanied by as many ingenious explanatory hieroglyphics. In a chapter on the treatment of pelvic abscess the author states, in regard to the enlarging of a rectal opening, that he has been misunderstood as advocating the use of cutting instruments. These he does not employ, but accomplishes his purpose by stretching and tearing after having thoroughly dilated the rectal sphincter. From extended observation, he "is convinced that there is no more danger in opening an abscess through the rectum than through the vagina." Still, we think the vagina usually the point of election. A new form of denudation for urethrocele and cystocele, in which an elongated oval strip is removed from either urethral fossa, is figured, together with a peculiar mode of passing the sutures which folds the edges and bottom of the wound together. Instead of performing laparotomy for the purpose of breaking up adhesions in old, obstinate forms of retro-displacement, as recommended by Polk where the suffering is great, Byford prefers to incise the recto-uterine pouch through the vaginal fornix, and break them up through that. This he has done in four cases, but has each time found it advisable to remove the diseased tubes and ovaries. In the last two cases, he held the uterus in place by vaginal tampons, and cured the malposition. Another novel procedure is the shortening of the retro-uterine ligaments as a means of cure for persistent retro-displacements. Byford has so far only performed the operation twice, but has obtained results which make him consider the subject worthy of further study. When the sacro-uterine ligaments are chiefly at fault he—thinking it unscientific to depend on Alexander's operation—would if possible shorten them first, and if the round ligaments could not then be made to resume their function, they could be shortened subsequently.

The chapter on instrumental examination of the pelvic organs falls below the general average, and is open at several points for criticism. The bivalve speculum is given the place of election, while the Sims' is subordinated, the cut illustrating its use badly drawn, and the description of its introduction not the best. The hysterometer, devised by Byford, though ingenious, we can hardly consider necessary or practical, except in rare instances. An inexperienced man would not be likely to obtain reliable information by its use and the expert would not need it.

For exploratory dilatation, he prefers his slippery-elm tent or the Molesworth dilator, and ignores the steel-branched instrument, though further on, under the head of dysmenorrhea, he says what nearly all will indorse, "the operation of dilating the cervical canal with bladed instruments is a simple mechanical procedure, easily executed, and on the whole more satisfactory than with sounds, tents, or bougies," adding, however, "except with slippery-elm tents." We would also condemn the advocacy of soft rubber pessaries, which soon become fetid and nasty, in spite of antiseptic douching, and must emphatically protest against the use of that winged monstrosity, the Zwanck pessary, which should only be mentioned that it may be avoided.

"Ulceration" is a term used throughout the work as indicating the visible changes occurring in the mucosa of the cervix in consequence of the hyperemia following laceration, chronic endometritis, etc. "Ulceration" in this sense is certainly a misleading and objectionable term. Byford thinks, however, that

objection to it is "less a reformation in nomenclature than a dispute about non-essentials," saying that ulceration is defined by Dunglison to be "a solution of continuity in the soft parts, of longer or shorter duration." This definition is no more applicable to the process commonly understood as ulceration than it is to the rupture of a tendon or an incised wound, unless we add, with molecular destruction and loss of tissue. Recent researches have shown that the process is, in nearly all cases, one of proliferation and entirely different from that essential to ulceration.

The book is worthy of its reputation, gives much that is original and good, and while by no means free from imperfections, is a credit to its authors. W.

**ATLAS OF VENEREAL AND SKIN DISEASES.** Comprising Original Contributions and Selections from the Works of Prof. M. Kaposi, of Vienna; Dr. J. Hutchinson, of London; Prof. I. Neumann, of Vienna; Profs. A. Fournier and A. Hardy, and Drs. Ricord, Cullerrier, Besnier, and Vidal, of Paris; Prof. Leloir, of Lille; Dr. P. A. Morrow, of New York; Dr. E. L. Keyes, of New York; Dr. Fessenden N. Otis, of New York; Dr. J. Nevins Hyde, of Chicago; Dr. Henry G. Piffard, of New York, and others. Edited by PRINCE A. MORROW, A.M., M.D., Clinical Professor of Venereal Diseases, formerly Clinical Lecturer on Dermatology, in the University of the City of New York; Surgeon to Charity Hospital, etc. Published in 15 monthly parts, each containing 5 folio chromo-lithographic plates and from 16 to 20 folio pages of a Practical Treatise on Venereal and Skin Diseases, the whole forming a volume of 75 plates, containing several hundred figures, exquisitely printed in colors. Wm. Wood & Co., New York, 1888.

A work of this kind concerns the whole profession, inasmuch as we are all liable at any time to meet lesions of the genital dermis or mucosa, in either male or female, which we should all be able to recognize, the specialist in gynecology not excepted. With his patient, examination of the husband or lover may aid in clearing a doubtful point or be necessary to substantiate a wavering diagnosis, while, on the other hand, the mistaking of a non-venereal lesion for one of the protean manifestations of syphilis might prove exceedingly disastrous to his fame as a diagnostician.

In the preparation of this Atlas the fact has been recognized that it is impossible for any one author to furnish from his own cases the most typical and lifelike pictures of these various forms of disease. To obviate defects arising from this cause, the co-operation of the leading dermatologists and syphilologists of the world has been secured. Prominent among these are Kaposi and Neumann, who have given the publishers the sole right to reproduce the plates from their recent works on venereal and skin diseases.

The plates, so far as they may be judged from those we have seen, are superior to anything before produced in America. They are admirably clear and accurate in both drawing and color.

The text, written by Dr. Morrow, is concise, clear, and *practical*, though of necessity he omits many pathological and other considerations which would require extended space.

We do not think that the publishers claim too much when they

say, that "considering the reputation of the authors, the ability of the editor, the superb execution of the plates, the excellence of the presswork, the high quality of the paper, etc., this Atlas will be the most superb work in medical literature ever published in the English language."

THREE HUNDRED AND EIGHTY-FOUR LAPAROTOMIES FOR VARIOUS DISEASES. By JOHN HOMANS, M.D., Surgeon to the Massachusetts General Hospital. Boston: Nathan Sawyer & Son, printers, 1887. 56 pages and numerous tables.

This little monograph represents a vast amount of work, Dr. Homans having analyzed and tabulated all the points of interest in connection with the laparotomies which he has performed. Preceding these tables is a short sketch of the technique he pursues, and of the most interesting cases from the various categories. Of the total number of laparotomies, 282 were ovariectomies, 27 removal of uterine tumors, 19 exploratory operations, 15 cases where cysts of the ovaries were stitched to the skin, 15 cases of removal of the uterine appendages for fibro-myoma, 5 cases of removal of the appendages for nervous disorders, 1 pyosalpinx, tubo-ovarian cyst, abdominal abscess, and perityphlitic abscess, respectively; 2 cases of removal of immense lipomas, 4 cases of intestinal obstruction, 3 cases of renal tumor. With the exception of his first five ovariectomies, all of which were fatal, stringent antiseptic precautions were enforced in all these operations, the carbolic spray being still retained, although Homans believes it unnecessary. Thirty-four of what he terms his antiseptic ovariectomies died, about one-quarter of this number being attributed to some error, carelessness, or want of cleanliness. Peritonitis or septicemia were usually the causes of death. He states that he has seen but one suppurating cyst of the ovary, and that this had been tapped. Of his hysterectomies there were ten deaths, and the extraperitoneal method of treating the pedicle is deemed the safer, although the frank admission is made that, in the hands of another, "more skilful," operator the intra-peritoneal method might be safe and reliable. An experience with five cases of removal of the uterine appendages for the cure of nervous disorders would lead Homans not to advise an operation of this nature unless a competent alienist suggested it. An instance of cure of tubercular peritonitis by laparotomy is referred to, the patient being well three years after the operation.

The above points, taken here and there, will testify to the usefulness of this record, and we trust that other operators will not prove slow in following Homans' example, for, unquestionably, much may be learned from a candid statement of individual experience and *ultimate results*. G.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY. Vol. XII., pp. 500. D. Appleton & Co. New York, 1888.

This volume contains an unusual number of valuable and instructive papers, those read at the twelfth annual meeting of the Society—the third held in New York City—of which a short abstract appeared in the October, 1887, number of this JOURNAL.

The names of the essayists—Emmet, Sutton, Bussey, Polk, Mundé, Palmer, Hunter, Lusk, Bantock, Jackson, Chadwick,



Battey, Johnstone, Parvin, Van De Warker, Foster, Jewett, Engelmann, and Doléris—and of the distinguished and representative men from other lands who, as the guests of the Society, took part in the discussions, are a sufficient guarantee that the usual high standard of these transactions has been more than maintained.

TRANSACTIONS OF THE EDINBURGH OBSTETRICAL SOCIETY. Volume XII., pp. 210. Oliver & Boyd: Edinburgh, 1887.

This is a record of the Society's transactions during the session of 1886-'87.

Among other papers, it contains a series by A. H. F. Barbour on the *Sectional Anatomy of Labor*, four by Berry Hart on the *Protection of the Perineum*; on the *Anatomy of the Post-partum Uterus, with Reference to Placenta Previa*; on the *Separation of the Placenta during the Third Stage of Labor*; and on the *Sectional Anatomy of Advanced Extra-Uterine Gestation*. A. D. Leith Napier describes a new method of *Anterior Colporrhaphy* and Jas. Carmichael discusses *Gastro-intestinal Disorders in Sucklings*.

---

## ABSTRACTS.

---

1. Paul Wehmer: A Contribution to the Subject of Myomotomy and of Castration for Fibromata (*Ztschrift. f. Geb. u. Gyn.*, XIV., 1).—Thirty operations performed by Kaltenbach are analyzed in this paper for the purpose mainly of determining the best method of treating the pedicle after myomotomy. The histories of twenty of the cases are inserted, the remainder having been recorded by Kaltenbach in the *Zeitschrift*, volume X. Of the 30 cases, 3 were pure myomotomies and 27 supra-vaginal amputations of the uterus. Of the supra-vaginal amputations, in 5 the pedicle was treated intraperitoneally, after Schröder's method, with a mortality of 60%; in the 22 instances where the extraperitoneal method of treating the pedicle was used, the mortality was 4.5%. A comparative analysis of cases recorded by other operators gives the following figures: *Intraperitoneal method*, 312 cases, mortality 28.2%; *Extraperitoneal method*, 262 cases, mortality 24%. These results speak in favor of the extraperitoneal method of treating the pedicle. The single death in Kaltenbach's series, treated extraperitoneally, was due to imperfect disinfection of the pedicle. Of the cases where the pedicle was treated intraperitoneally, 2 of the 3 deaths resulted from infection of the patient from suppuration of the pedicle, and the likelihood of this occurrence, together with that of hemorrhage, has caused Kaltenbach to reject the intraperitoneal method, and the opinion is expressed that the extraperitoneal method is of wider applicability than is generally thought.



In regard to castration for fibromata, of 10 instances there was 1 death. In 8 cases the hemorrhages were checked at once by the operation: in 1 case it was only at the expiration of nine months that the hemorrhages diminished, but in this case it had not been possible to remove one of the ovaries, owing to the extensive adhesions. In 5 instances, the tumor speedily diminished in size; in 1 case, the tumor did not diminish; in 2 cases, the operation was of too recent date to justify any statement. In reference to the choice of operation, Kaltendach castrates mainly in case of the smaller interstitial myomas of the uterus which were still covered by a smooth layer of the muscularis.

E. H. G.

**2. Paul J. Meyer: The Changes in the Blood during Pregnancy** (*Archiv f. Gyn.*, XXXI., 1).—The following are the conclusions deduced from an examination of the blood of 10 non-gravid (between 20 and 25 years of age) and 37 gravid women: In case of healthy non-gravid women the mean percentage of hemoglobin was found to be 85.4, and this figure is 7.6% lower than that determined by v. Fleischl. In the blood of pregnant women, in the last month of gestation, the number of blood-corpuscles and the amount of coloring matter are diminished, M. finding that the corpuscles, at the beginning of the last month, diminish to .70 mill. in 1 cmm. of blood and the hemoglobin 7.8% on the average. A short time after delivery, the number of red blood-corpuscles and the amount of coloring matter in the blood are, in general, markedly decreased, and this is probably dependent on hemorrhage during labor. During the puerperium, the corpuscles and the hemoglobin increase in number and amount, and in a number of the cases examined by M., the increase was so marked that two weeks after labor the mean was higher than in the same women during pregnancy.

E. H. G.

**3. R. Dohrn: The Question of Version followed by immediate Extraction** (*Ztschft. f. Geb. u. Gyn.*, XIV., 1).—In case of transverse presentation, D. favors never resorting to podalic version until full dilatation, unless there be special indication, and he resorts to immediate extraction only when the interests of mother or child urgently call for it. This practice is based on the results obtained in 152 cases at the Königsberg clinic, where version was resorted to after full dilatation had obtained, followed by immediate extraction, the results being in 86% a living child, and 23 times a still-born child. In 29 instances, on the other hand, where immediate extraction was not resorted to, all the children were spontaneously expelled alive in from  $\frac{1}{4}$  to  $\frac{3}{4}$  of an hour. Expectancy was in no instance of injury to the mother.

E. H. G.

THE AMERICAN  
JOURNAL OF OBSTETRICS  
AND  
DISEASES OF WOMEN AND CHILDREN.

---

---

VOL. XXI.      APRIL, 1888.      No. 4.

---

---

ORIGINAL COMMUNICATIONS.

REMOVAL OF THE UTERINE APPENDAGES AND SMALL  
OVARIAN TUMORS BY VAGINAL SECTION,  
WITH A REPORT OF TWELVE SUCCESSFUL CASES.

BY

HENRY T. BYFORD, M.D.,

President of Chicago Gynecological Society; Surgeon to the Woman's Hospital of  
Chicago; Gynecologist to St. Luke's Hospital.

As an advocate of the merits of vaginal section for the removal of the uterine appendages and small ovarian tumors, I have to contend with the most difficult of obstacles, viz., its abandonment by its originators, Drs. T. G. Thomas and Robert Battey. These surgeons shared the fate of all originators or inventors: they met with the drawbacks and reverses that belong to imperfection of method and a want of an extended experience either by themselves or others. Probably the chief reason for their failure to develop the operation was the brilliant rise of abdominal section following the introduction of the antiseptic system, dazzling and blinding their judgment and luring them into the main avenue of triumphant advance.

Dr. Battey, in a monograph read at the British Medical Association, August 3d, 1880, said: "Of the fifty-four cases (of Battey's operation) he is now enabled to tabulate, in thirty-

four the abdominal section was made, with twelve deaths: whilst in twenty cases of the vaginal section there were but three deaths. In other words, the mortality of the abdominal method was  $53\frac{1}{2}$  per cent, and of the vaginal method but 15 per cent." Thus we see that the advantages were apparent from the first, in the removal of diseased ovaries.

I have found records of forty-nine cases of oöphorectomy and ovariectomy with a death-rate of 12.24 per cent, viz., fifteen by Battey, with three deaths; five by Goodell, with one death; four by J. Marion Sims, with no deaths; twelve by myself, with no deaths; one successful case by each of the following operators: T. G. Thomas, Trenholme, West, William H. Byford, W. L. Atlee, R. Davis, J. T. Gilmore, C. E. Wing, Howard A. Kelly, J. G. Smith and Bouilly. And one fatal case each by Drs. A. Prince and W. H. Baker. This is a splendid record for the first forty-nine cases. With such a beginning the operation deserves a more extended trial.

I shall describe the operation as I have now come to perform it, briefly relate my cases, and then state the conclusions that may be drawn from a study of them.

MODE OF OPERATING.—The usual preparations for a laparotomy, including thorough disinfection of the vagina and evacuation of the intestines, are made. The patient is placed in the dorsal position, the anus stopped up by a strip of lint, the vagina again douched and sponged out with a 1 : 2,000 solution of the bichloride of mercury. A perineal retractor is introduced, the cervix seized, and a strong silk thread passed through the posterior lip, to serve in pulling the cervix upwards and forwards, and exposing the posterior vaginal wall in front of the cul-de-sac of Douglas. The uterus is wiped out and disinfected with a five-per-cent solution of carbolic acid in water. An assistant then holds the cervix forward by the silk thread, while another draws the perineum back with a retractor.

THE VAGINAL INCISION.—The operator seizes the posterior vaginal wall a little below the cervical junction, with a tenaculum, and cuts through it with sharp-pointed scissors from a point a little below the cervix straight down the median line an inch and a half. In order to avoid the arteries supplying the cervix, the incision should not reach quite to it. Those below in the median line seldom prove troublesome. The

rectum may be easily avoided by making this first incision through the vaginal wall only. The cellular tissue behind the cervix is then drawn forward by the tenaculum, and cut with the scissors in the median line. If a hole in the peritoneum is not made, the deeper tissue is hooked forward and cut again. When the peritoneum is opened, its edge is hooked out and cut down the median line as far as its translucency indicates that the rectum is not reached. If the peritoneal opening then be too small it will be easily torn larger by the fingers. Excessive bleeding, if such happen to occur, may be readily controlled by long slender hemostatic forceps or by a temporary ligature. I seldom pay any attention to it.

GRASPING AND LIGATING THE OVARIES AND TUBES.—The assistant relaxes the traction upon the cervix and removes the retractor, and the operator introduces two fingers of the left hand into the cul-de-sac and over the sacro-uterine ligament, grasps an ovary or small cyst and draws it out into the vagina. The tube usually follows and can be grasped for ligating the same as in the abdominal way of operating. A needle is then passed through the broad ligament and the double ligature drawn through. The ovary and tube, after being grasped by an ovary forceps, are held by an assistant as the operator ties the pedicle in two halves. While the ligature is being introduced, the vaginal walls are held away from the ovary and tube by a side vaginal retractor on the left side of the patient placed so as to press back the edges of the incision, and another of the same length along the anterior vaginal wall. The ligature should be long, to facilitate the tying, for the knot must be drawn tight by the ends of the forefingers or thumbs introduced to the point where the thread enters the broad ligament. Cysts may be punctured after having been drawn down to the incision by the finger around the pedicle, or by a sharp hook or forceps, and then tied and cut off.

CLOSING THE PERITONEAL CAVITY.—The cul-de-sac is sponged out, and a small soft sponge, attached to a holder, left in while interrupted sutures of juniper catgut are introduced so as to include both vaginal and peritoneal edges. The cul-de-sac is again sponged out and the sutures all drawn tight as the sponge is withdrawn for the last time, so that the bloody oozing will be immediately checked. Before the lower sutures are tied a drainage tube about three inches long, whose ex-

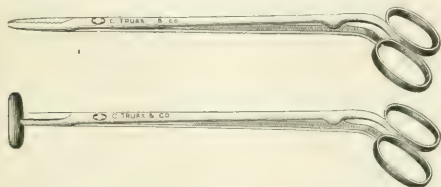
ternal end is wrapped in iodoform gauze and attached to a thread, is guided by the finger well into the cul-de-sac, and the remaining sutures immediately tied. The thread is then removed from the cervix, the cervical cavity and vagina wiped out, lightly sprinkled with iodoform, the uterus anteverted bimanually, and a long strip of iodoform gauze pushed little by little into the vagina until the cervix is tamponed in the back part of the pelvis. The end of the gauze should project so as to come in contact with a dry piece laid on the vulva and afford capillary drainage. When there are no adhesions and the cul-de-sac is deep, so that the incision is a clean cut into the peritoneal cavity, no drainage is necessary; on the other hand, if the parts be too ragged, or be infected by pus, the peritoneal edges may be united to the vaginal edges so as to close the raw surfaces on each side without closing the wound except by a loose tampon. In Case VIII., the cul-de-sac should have been left open, while in Case IX. drainage was entirely unnecessary.

ADHESIONS.—Adhesions that do not involve the intestines may be loosened with the same freedom as in abdominal section. Bands and omental adhesions may often be brought into sight and ligated or compressed by forceps before being cut or torn loose. Bleeding may be controlled by sponge-pressure or finger-pressure, hemostatic forceps, ligature, pieces of ice, or water at 120° F. introduced into the cul-de-sac, persulphate of iron, rectal tampons, rectal and vaginal tampons combined, etc. The uterus is necessarily retroverted while the ovaries and tubes are being tied and cut off, hence its posterior surface and the entire cul-de-sac may be sighted, and bleeding points treated without danger of injuring the intestines. The danger of using ice or very hot water is much less than in abdominal section, since the intestines are much less in the way; a little omentum is often all that is felt of the abdominal viscera during the entire operation, and even that is seldom seen.

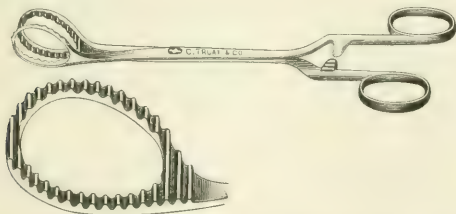
AFTER-TREATMENT.—The drainage tube is pulled out by the string soon after the first twenty-four hours, according to the condition of the parts—usually in about thirty hours. The tampon is left from forty-eight to sixty hours unless it produces a rise of temperature before such time. If the first reaction is excessive and does not rapidly subside, an icebag is placed over the lower abdomen. The remainder of the treat-

ment is like abdominal section, except that the patient may talk more and move the limbs more freely.

INSTRUMENTS.—Next to the want of a suitable method, one reason for the delay and difficulty in this operation has been the want of suitable instruments. I have had some hemostatic forceps made for me by Truax & Co., of Chicago, which are long and



light so as to reach from the incision out beyond the vulva, and bent on the flat so as to bring the handles entirely out of the way. The vaginal blade of the perineal retractor is short, as in Jackson's pattern, while those of the lateral retractors are



three inches long and quite narrow, taking up but little room and at the same time extending far enough to hold the edges of the incision out of the way. The thread through the cervix fulfils the office of tenaculum forceps. I have devised a slender ovary forceps which enables me to hold the ovary and use slight traction in any desirable direction, and tie the ligatures without risk of mutilating the tissues. Unless adhesions exist, neither the ovaries, broad ligaments, nor tubes should be torn nor mutilated. I use a curved needle on a handle for passing the ligatures through the broad ligament, as its adjustment requires but one hand and leaves me the left hand to hold the parts, while guiding the needle point.



In addition to these instruments, we should have a pair of perineum scissors, a sharp hook, needle holder, needles about an inch long, stout silk thread (10 Chinese, braided), juniper catgut No. 2, rubber or bone drainage tube three inches long, iodoform, iodoform gauze, T-bandage, antiseptics, etc., etc.

CASE I.—Mrs. Esther D——, of Spirit Lake, Iowa, sent by Dr. L. C. Winsor. Age 39; seven children. Husband left her, because he considered her insane. Attacks of hysterical mania and spasm with intense cephalalgia every few days, requiring from a half to a grain of morphia for their alleviation. Has been bedridden twice, for a year each time. Failure of all treatment. Retroversion. Right ovary enlarged.

Operation at the Woman's Hospital of Chicago, July 30th, 1887. Present, Drs. Nelson, Merriman, Piercy, house-surgeons A. J. Tyler, and J. Brown, and two students. The operation was performed as has been described, except that silkworm-gut was used for the vaginal sutures, and the uterus was left in a position of retroversion, under the erroneous impression that the peritoneal cavity would thus be more safely protected. Drainage twenty-four hours; tampon forty-eight hours. The most noticeable thing about the case was that the patient, upon awaking, thought that nothing had been done to her; and although she could not be kept quiet, had scarcely any reaction. Was made comfortable by hypodermics of water, and never has had one of those headaches, spasms, nor maniacal attacks since.

Dr. Winsor wrote me September 9th, six weeks after the operation: "Out of nineteen cases of ovariectomy I never saw so good a recovery." January 2d, 1888, he wrote me that she was doing well.

CASE II.—Mrs. N——n, age 31. Married. One child born several years ago, at eight months. An invalid since her confinement. Under treatment for seven or eight years, the last three by myself. Retroversion. Right ovary firmly adherent to the sacro-uterine ligament, and left ovary to the posterior surface of broad ligament. Husband thought that she was sometimes "not in her right mind."

Operation July 31st, 1887, at St. Luke's Hospital, assisted by Drs. L. L. McArthur, Frank Cary, and C. A. Foulks. Right tube found enlarged and dilated, but empty and open at peritoneal end. Right ovary loosened from a bed of lymph and removed with its tube. Left ovary loosened and left. Scarcely any reaction. Drainage tube removed at the end of twenty-four hours. Temperature normal on the third day. An unimportant attack of phlebitis attacked the left side about ten days after the operation. The first of December she felt better than before the operation. I undoubtedly erred in leaving the left ovary and tube. She complains much less than formerly, and weighs much more.

CASE III.—Mrs. J. L. S——, of Fort Byron, Ill., age 42. Multipara. Confirmed invalid; unable to sit up longer than a few moments at a time. Constant pelvic pains. Hysterical. Has been an inmate of an insane asylum. Retroflexion. Right ovary in the cul-de-sac of Douglas, and enlarged and tender. Left ovary small.

Operation at the Woman's Hospital, August 11th, 1887. Assisted by Drs. Merriman, C. N. White, J. R. Richardson, Tyler, and Brown. But little reaction. Temperature 99.4° F. thirty hours after. Felt better from the time of the operation.

Nov. 15th.—In better health than for years.

Dec. 24th.—Able to do light housework.

CASE IV.—Mrs. C——n, age 24. Married ten years. Had a child one year after marriage, and another nineteen months later. Dysmenorrhea. Present illness has existed, she says, three years, during which time, up to the time of operation, she had been practically bedridden, and had sat up for an hour or two a day only. Had a temperature varying from 98.4° to 100° F., usually 99.4° to 99.6° F., for the month preceding the operation. Retroversion, endocervicitis, ulceration about the os. Right, enlarged adherent ovary easily felt through the vagina.

Operation at St. Luke's Hospital, Aug. 17th, 1887, assisted by Drs. Foulks, C. N. White, and two nurses. Used chrome catgut for the vaginal stitches. Found the right ovary firmly adherent over the sacro-uterine ligament, somewhat elongated, and four times as thick as normal. In pulling the ovary down, an organized blood-clot, the size of the end phalanx of a man's thumb, was squeezed out of it. The tube was three times its natural diameter, and adherent around the ovary. The posterior surface of uterus near the right horn was adherent in the cul-de-sac and, when separated, bled rapidly from two points, one of which was transfixed with catgut, and the other treated by a temporary compress of persulphate of iron along the superficial course of the vessel. This was easily done under the eye, as the fundus was drawn well down in sight at the vaginal incision. Left ovary slightly enlarged and firmly adherent to the posterior surface of broad ligament. The tube was adherent so tightly at its fimbriated extremity that I deemed it safer to ligate it at both ends and cut off the tube between them. I was able to get at the bleeding places and adherent tissues without interference with any other viscera, and with greater ease than would have been possible through a ventral incision. But the most gratifying part of it was that, although the temperature reached 101° F. on the evening of the operation, it did not reach 100° F. after that, and after the second evening was about the same as before the operation. Drainage for thirty-six hours. Tampon sixty hours.

CASE V.—Mrs. M——m, age 45. Multipara. Miscarriage four years ago. Menorrhagia. Ulceration of the os. Ovarian and pelvic pains. Incapacitated for work. Uterus sometimes

normal in position, sometimes retroverted. Small movable tumor sometimes felt in the cul-de-sac.

Operation, Aug. 27th, 1887, at St. Luke's Hospital, assisted by Dr. Foulks, interne Gregory, and nurses. A right ovarian cyst, the size of a small egg, was easily pulled into the vaginal incision, punctured, ligated, and cut off. Left ovary, unnatural in shape and color, was also removed. Drainage for twenty-four hours. Iodoform gauze forty-eight hours. Recovery uninterrupted, except by gastric disturbances.

CASE VI.—Mrs. C——n, age 43. Married when twenty-two years old. Had one child, who is a dwarf, the year after, and dates her present illness from that time. Mental condition bordering upon insanity. Anemia, pelvic pains, failing in health, in spite of treatment. Slight antelexion. Prolapse of right ovary in cul-de-sac. Left ovary and tube enlarged.

Operation at St. Luke's Hospital, Sept. 8th, 1887. No adhesions nor difficulty. Drainage for twenty-four hours. Tampon for forty-eight hours. Almost constant nervous vomiting for four days, excited by every noise or motion about her. Progress favorable, except that after getting up she complained that walking still made her feel badly.

CASE VII.—Mrs. J——n, sent by Dr. J. H. Stowell. Age 34. Married. Seamstress. One child. Unable to work on account of pelvic trouble. Failure of treatment. Retroversion. Proapsed right ovary.

Operation at St. Luke's Hospital, Sept. 26th, 1887, assisted by Drs. Foulks, Stowell, Marble, and interne Gregory. Both ovaries found enlarged and degenerated, and were removed. The uterus was tamponed in a position of anteversion for three days for the cure of the retroversion. Drainage for forty-eight hours. The temperature went up to 100.4° F. ninety-six hours after the operation, but promptly went down after removal of the tampon, and was normal after the fifth day. She now enjoys better health, and is able now to work steadily at her trade. Uterus remains in normal position. Says she has felt better this winter than in the past twelve years.

CASE VIII.—Miss R——e. Virgin. Sent by Dr. G. S. Ruggles. Age 24. Acute attacks of pelvic inflammation for eight years; confined to the bed most of the time for four years on account of ovarian and pelvic pains and tenderness. Has been treated for pelvic inflammation for two years without benefit. Retroversion with adhesions of uterus and ovaries. Came to the hospital the evening before the operation with a slight diarrhea, and would not listen to a postponement.

Operation, Oct. 2d, 1887, at the Woman's Hospital. Assisted by Drs. Wm. H. Byford, Ruggles, Mergler, and internes Tyler and Brown. Vagina narrow, introitus rigid. The cul-de-sac was found to be obliterated and represented by cellular tissue, so

that I had to work my way up behind the cervix. Upon peeling the right ovary from its bed of lymph over the sacro-uterine ligament, it was found to be a dermoid cyst, the size of a walnut. The right tube was so firmly adherent that I could not separate it by any force that I deemed safe, and was not taken out. The left tube, firmly adherent throughout its entire length over the sacro-uterine ligament, was hard and knotty, over three times its normal size, and contained at its open fimbriated end a mucopurulent fluid. The meso-salpinx was so intimately adherent with its surroundings, that the tube tore entirely away from it. One strip of it was tied and cut. The ovary and infundibulopelvic ligament were adherent on the broad ligaments, so that the ovary could, with great difficulty, be brought down far enough to ligate. Hemostatic forceps were applied to two bleeding points. The ovary and tube had to be ligated separately. Drainage forty hours. Tampon sixty hours. In this case, it would have been impossible to have removed the tissues by abdominal section without eventration, and probably a fatal peritonitis following. As it was, it presented all the difficulties that a vaginal section could, viz., small virgin vagina, obliterated cul-de-sac, extensive adhesions, hemorrhage, subacute pelvic peritonitis; and yet, without disturbing the abdominal viscera, it was possible to ligate the tissues and adhesions in full sight, check the hemorrhage by hemostatic forceps, and get the patient to bed with but little shock or subsequent reaction. The temperature remained about 99.5° F. for a number of days afterwards. There were no bad symptoms, and the patient was up in three weeks. About this time, however, the old ovarian pain commenced to come back, and an abscess gradually developed and discharged through the vagina and rectum, probably from septic infection of a ligature.

CASE IX.—Mrs. C. E. F——h, of Maquoketa, Iowa. Aged 28. Married eight years. Two children, four and seven years of age. Illness originated at birth of first child. Unable to be on her feet any length of time, or attend to domestic duties properly. Never benefited by treatment. Retroversion. Prolapse of right ovary and tube in the cul-de-sac of Douglas. Replacement of uterus does not replace the ovary and tube.

Operation: Removed the right ovary and tube at the Woman's Hospital, Oct. 18th, 1887. Assisted by Drs. Hoag, Barlow, Weston, Tyler, and Brown. Sewed up the vaginal wound with carbolyzed catgut, put in a drainage tube, and tamponed the uterus in a position of anteversion. Drainage tube removed in twenty-four hours. In two and one-half days the temperature went up 100.4° F., the highest reached, when the tampon was removed and the temperature went down. The tampon was not wet through. She went home in five weeks, with the uterus in position, and has recently reported herself much gratified with the result of the operation. Her weight has increased from ninety-five to one hundred and eight pounds.

CASE X.—Mrs. J——n, of Chicago. Sent by Dr. Barlow. Age 42. Widow. One child, 16 years old. Sick with pelvic troubles ever since. Two and a half years ago had Sims-Emmet operation for cystocele, and Emmet's operation upon the perineum, with success. Chronic invalidism. Insomnia. Frequent attacks of parametritis. Constant local treatment for several years, but with little benefit. Irreducible retroversion. Enlargement of right ovary.

Operation at Woman's Hospital, January 14th, 1888. Assisted by Drs. Barlow, Merriman, Brown, and Galoway. As the vaginal entrance was too small for the use of the perineal retractor, a small side retractor was substituted. The shallowness of the cul-de-sac made the incision consist of a longitudinal vaginal and transverse peritoneal portion, with much cellular tissue between. No farther difficulty. No adhesions. Right ovary contained a cyst with about two drachms of fluid. The hindrance to the reposition of the uterus lay in a parametritis, extending to the posterior surface of the right broad ligament and upper edge of the sacro-uterine. Drainage for thirty hours. Tampon for two and one-half days. Ice-bag used until after the tampon was removed. The cervix was tamponed back in the pelvis, bringing the fundus somewhat near the axis of the superior strait, and so remains up to the present time. Smooth recovery so far, temperature ranging from 99° F. to 99.8° F. for first few days. The prediction of her physician, that a fresh attack of parametritis would follow the operation, was not verified.

CASE XI.—Mrs. H——d. Sent by Dr. C. A. Foulks. Age 22 years. Married three years eight months. One child, 2½ years old. Sick since birth of child. Unimproved by a long course of local treatment. Right ovary size of a small hen's egg, prolapsed and cystic. Removed at St. Luke's Hospital, February 6th, 1888, assisted by Drs. Foulks, Barlow, and Hayman. Left ovary normal and was not disturbed. Uterus sometimes retroverted, sometimes normal in position. Drainage twenty-four hours, tampon forty-eight hours. Recovery without appreciable reaction. Uterus remains in normal position.

CASE XII.—Mrs. J. E. D——, of Central Park. Referred by Dr. J. T. Milnamow. Age, 26. No children, one miscarriage. Unable to attend to household duties. Retroversion. Right ovary and tube enlarged and prolapsed. Left tube contained four ounces of watery fluid, left ovary half an ounce. Adherent together and slightly to their surroundings. Vaginal entrance small and very rigid. The left tube and ovary drawn to the incision by my slender hemostatic forceps and emptied by a small trocar. The collapsed mass was drawn into the vagina, the thick pedicle ligated in three parts and cut. Drainage thirty hours, tampon forty-eight. Is making a good recovery. Uterus in normal position. Operation at patient's house, February 16th, 1888, assisted by Drs. J. T. Milnamow, H. P. Newman, Otto Miller, and two nurses.



INDICATIONS.—A study of my cases will reveal the fact that they were all of the kind in which the uterus was either retroverted, or changeable in position from the normal to retroversion, or was retrovertable without violence to the tissues. When the cervix is held back by rigid tissues about it, or the fundus held forward in a similar way, abdominal section is the preferable method. When the ovaries are bound by large masses of lymph high up laterally or anteriorly in the pelvis, this method is also contra-indicated. When an ovarian tumor is larger than an orange and adherent, and larger than a child's head although not adherent, the abdominal method should have preference. By way of comparison, I may say that, although I favor vaginal section for the removal of the appendages when practicable, I chose abdominal section in the other fifteen cases, in which I removed the appendages during the months in which these vaginal sections were performed (from July 30th, 1887, to the present time, February 28th, 1888), excluding ovarian tumors large enough to become abdominal. In two of the abdominal cases, I had to abandon the operation as impracticable after loosening a few adhesions. In one of these incomplete operations, I could not get through the retroverted broad ligaments on account of the firm adhesions of the Fallopian tubes low down posteriorly, but feel confident that I could have removed the ovaries through the cul-de-sac.

It will thus be seen that I advocate vaginal section only for those cases in which the uterus can be retroverted without violence to the pelvic tissues, and in which the ovaries can be reached by two fingers introduced into the vagina and cul-de-sac. To try vaginal section for all cases, or even the majority, would be to again court the disasters that occasionally overtook the earlier operators. That this kind of selection does not exclude difficult and unpromising cases may be inferred from a perusal of the records of Cases II., III., IV., V., VIII., X., and XII.

ADVANTAGES.—Unless there be some advantages in the vaginal method in the class of cases referred to, its advocacy is, of course, a waste of time. I submit the following:

1st. The ovaries and tubes, when they lie low in the pelvis, are reached with much less interference with the intestines; the shock and reaction are less, and, in case of difficulty in sepa-



rating adhesions, the resulting inflammation is much less apt to spread to the abdominal cavity.

2d. The wound is less in extent, is at the lower end of the abdominal cavity, is better situated for drainage, is concealed, and is less liable to be followed by hernia.

3d. The bands of adhesion can in this class of cases be more often drawn into the field of vision and tied.

4th. Hot water, ice, and other hemostatic agents can be used with less danger.

5th. Advantage can be taken of the temporary exudate in the cul-de-sac to fix the retroverted uterus in a normal position.

6th. When much time is required, there is much less of that danger which comes from leaving the abdominal cavity open a long time in abdominal section.

7th. The statistics, other things being equal, are in favor of it, although it has been by some operators employed indiscriminately for all kinds of cases. In a series of twelve cases, selected according to the principles I have here advocated, it has given twelve recoveries—a series not long enough to establish any definite conclusions, but long enough to justify a farther trial of a hastily abandoned operation.

OBJECTIONS.—1. It is objected to the operation that the abdominal method is simpler, quicker, and easier. This is not so in the cases for which vaginal section is indicated. It is, however, true of cases in which the cervix is held back and the ovaries high up or far forward in the pelvis.

2. Objection is made on account of the dilatation of the vagina, often necessary. No dilatation is necessary, except such as can be accomplished by the retractors, as is shown by Cases VIII., X., and XII.

3. Objection is made that one cannot see as well. I answer that one can, as a rule, see better in this kind of cases than by abdominal incision, except when there is a large incision and eventration.

4. That the stump cannot be so easily tied. This, again, is not true of those cases in which the organs are low in the pelvis. When there are extensive adhesions, less mutilation is required to bring them into view and reach.

5. Difficulty attending antiseptis. This is only apparent. The method I have adopted of sewing up the wound around a drainage tube leaves only the external end of the tube to be

protected. After thorough disinfection of the vagina and uterus, the iodoform and iodoform gauze are sufficient for the time that the tube need be left. If pus or other septic matter in the pelvic cavity require that the vaginal wound be left open, the disinfected vagina will be comparatively harmless, particularly so until the peritoneal cavity becomes closed off above the purulent region.

**DANGERS.**—The chief danger would seem to be from sepsis, due to imperfect disinfection of the vagina; to escape of the contents either of a dermoid cyst or suppurating ovary or tube; or to an adhesion, after the operation, of the posterior wall of the uterus to the sacro-uterine ligaments, so as to shut bloody or other exudates in the peritoneal cavity. Such disasters, as well as that of wounding the rectum, may of course be avoided by care and antiseptis.

#### LITERATURE.

T. G. Thomas, *American Journal of Medical Science*, April 1870; *Diseases of Women*, 1880, pp. 731 and 759; Private correspondence.

E. R. Peaslee, *Ovarian Tumors, etc.*, 1872, p. 319.

Robert Battey, *Normal Ovariectomy*, *Atlanta Medical and Surgical Journal*, 1872, 1873, 1874; *Summary of the Results of Fifteen Cases of Battey's Operation*, *British Medical Journal*, April 3d, 1880; *Extirpation of the Functionally Active Ovaries, for the Remedy of Otherwise Incurable Disease*, *Trans. of Am. Gyn. Society*, Vol. I., 1876; Private correspondence.

R. Davis, *Trans. of Medical Society of Pennsylvania*, 1874, Vol. X., Part I., p. 221.

J. P. Gilmore, *New Orleans Med. and Surg. Journal*, Nov., 1873, p. 341.

Clifton Wing, *Boston Med. and Surg. Journal*, Nov. 2d, 1876, p. 516.

Goodell, *Trans. Am. Gyn. Society*, Vol. II., p. 257; *Lessons in Gynecology*, 1887, p. 495.

W. H. Baker, *Vaginal Ovariectomy*, *N. Y. Med. Journal*, March, 1882.

Hegar and Kaltenbach, *Operative Gynecology*, 1886, p. 320.

Olshausen, *Die Krankheiten der Ovarien*, p. 194.

H. O. Marcy, Private correspondence.

Emmet, *Principles and Practice of Gynecology*, 1884, p. 695.

Bouilly, *Archives de Tocologie*, 1886, p. 1080 (*Gazette des Hôpitaux*).

Hart and Barbour, *Manual of Gynecology*, 1882, p. 211.

J. Greig Smith, *Abdominal Surgery*, 1887, p. 172.

Byford, *Diseases of Women*, 1888, p. 746.

Howard A. Kelly, Private correspondence.

## SUPPURATIVE EXFOLIATIVE CYSTITIS.

BY

H. J. BOLDT, M.D.,

New York.

THIS form of cystitis is usually overlooked, or but briefly referred to, by authors, and when described is generally erroneously called diphtheritic, croupous, or plastic cystitis, etc. That there is a diphtheria of the bladder I do not question, neither do I deny that it is of most frequent occurrence in the female during the pregnant or puerperal state.<sup>1</sup> The same may be said of plastic or croupous cystitis.<sup>2</sup> We must, however, draw a line of distinction between such diseases and that which I will consider in this article. We have no *false* membrane to deal with, it is not a *formed* membrane, but it is a true constituent portion of the bladder which by disease has been dissected off, and then is either expelled or remains loose in the viscus. If the mucous membrane alone be detached by the inflammatory process, it does not macroscopically differ from those layers of fibrinous exudation which are pseudomembranes, but in no respect true bladder structure. Hence, perhaps, the confusion of some observers.

This variety, or rather degree of cystitis, occurs most frequently in the female in the pregnant or puerperal state. I should prefer to give to it the name *Cystitis suppurativa exfoliata*, in contradistinction to the suppurative inflammation of the bladder occurring during severe febrile and infectious diseases, because in the latter only small shreds of tissue become detached at one time. The same holds good for the necrotic cystitis of paralytics.

Before going into a description of the disease I will review the valuable parts of some of the published cases. After a careful search through the literature I have been able to collect

<sup>1</sup> Garrigues, Transactions of the American Gynecological Society, Vol. x., 1885.

<sup>2</sup> See Winckel's and other treatises on diseases of women and child-bed.

twenty-nine cases, but want of space in this article forbids the recital of all, neither will it add anything in the main because the histories are very similar. Some cases lack careful investigation of the exfoliated structure, so but little need be said of them.

*Tulpius* ("Observationes Medicæ," Lugduni Batavorum, 1716) cites the first case. A woman who supposed herself to be suffering from stone in the bladder passed a moderately large membrane during micturition, which was covered with minute stony deposits. More shreds of membrane were passed subsequently. After a lingering illness, complicated with incontinence of urine, the patient finally recovered on tonic treatment.

*Zeitfuchs* (Siebold's *Journal für Geburtshülfe*, 1833) describes a case in connection with *retroversio uteri gravidi*. Recovery. Pregnancy went to end of term, with twins.

*Dr. M. Wittich*, Eisenach (*Neue Zeitschrift für Geburtsheilkunde*, 1847, Vol. XXIII., p. 98 to 117). Pt. æt. 28, became pregnant in the latter part of May, 1844, the third time, proceeding normally in gestation to August, when, upon lifting a heavy burden, she experienced sudden pain in the pelvis, accompanied with a feeling as if something was tearing in the abdomen. She was compelled to go to bed. There was disturbance of the urinary functions; pain in the hypogastrium; urine could be voided only in decubitus and in drops. Constipation. Several days later the urine looked "dark red."

*Dr. Theyson* saw the patient in consultation on August 26th, and on examination found the abdomen distended by an over-filled bladder. The urine voided had a foul, sharp odor, such as is produced by macerated animal substance. More careful examination showed the patient to be suffering from a retroverted gravid uterus. After many fruitless attempts, reduction of the displacement was accomplished on September 6th. In the interval the urine continued to be offensive, and contained shreds of the bladder mucosa. A piece of membrane presenting at the urethral orifice was withdrawn; it had a foul odor, was gray, and distinctly included a portion of the muscular structure. The patient eventually recovered, some weakness of the bladder remaining.

*Prof. Luschka*, Tübingen (*Arch. f. pathologische Anatomie*, 1854, Vol. VII., p. 30). Pt. æt. 26. Retroflexion with pregnancy advanced into the twentieth week. For the past three weeks she had suffered from retention of urine. With intense tenesmus and severe burning pain but few drops of urine could be passed at one time. On account of failure to empty the bladder per catheter, the viscus was punctured. The urine was afterwards continually withdrawn through a canula which had been introduced at the point of puncture. The patient, how-

ever, died on the twelfth day after the operation with typhoidal symptoms (septicemia?). The mucosa of the bladder was entirely detached from the muscularis and the urethral opening nearly wholly closed by an exudation. The walls of the bladder were very much thickened; the thickening being not only dependent on the hypertrophy of the muscular structure, but also on a considerable increase and condensation of the surrounding free and submucous cellular tissue. The loose sac had a dirty-gray color, and showed no signs of epithelial covering.

Mr. Maunder (Trans. London Path. Soc., Vol. XIII., 1862). Pt. æt. 29 years; three months pregnant. Retention of urine. A catheter had slipped into the bladder. Urethra was dilated and the foreign body removed, when a large quantity of bloody urine was poured out. Under the care of Dr. Barnes symptoms of acute cystitis prevailed many days; at length the membrane said to have come from the bladder was shown. Recovery. Bladder trouble remained. It was doubted at first that Dr. Maunder's view, that the membrane was a portion of the bladder, was correct. Committee report, however, confirms it. (*Med. Times and Gazette*, 1863, Vol. II., p. 522 and 678.)

Hausmann (*Monatschrift f. Geburtsheilkunde*, 1868, Vol. 31, p. 132). Diphtheria of the bladder with subsequent exfoliation of a portion of the mucosa. VIIpara. Fourth month of gestation. Uterus was retroverted, and retention of urine had been present since the end of the third month of pregnancy. On October 3d, 1867, pt. was admitted into the obstetrical clinic where the uterus was reduced. Examination of the urine showed it to be muddy, yellowish-gray, alkaline, ammoniacal; sp. gr. 1.006. The microscope showed large quantities of brownish, discolored pavement epithelium from the mucous membrane of the bladder; cells in the process of destruction; detritus and vibriones. The specimen was shown to the Obstetrical Society of Berlin on November 26th, 1867; it measured in length  $5\frac{1}{2}$  cm. and 5 cm. in width; it had a number of openings about the size of a pea which were principally artificial products, but probably one of them was the opening of the ureter into the bladder (*which I think doubtful*). The date of the exfoliation is not stated. Microscopical examination of the specimen shows it to be true mucous membrane. *Not a false membrane, which it would be, were it diphtheritic.*<sup>1</sup> Although Hausmann stated that it was an exfoliation of the mucosa of the bladder due to diphtheria, there is nothing in his lucid description of the case which would permit such conclusion. The retention of urine, which caused the cystitis, was due to pressure of the cervix against the symphysis, compromising the bladder; posterior was the gravid uterus which caused the persistence of the pressure. The bladder was felt as an elastic swelling above the os pubis. Recovery.

<sup>1</sup> Italics are mine.

*Fr. Schatz*, Leipzig (*Archiv für Gyn.*, Vol. I., p. 469). Pt. 35 years old; IVpara. Previous confinements moderately tedious, also suffered from prolapsus uteri. In October, 1869, while carrying a heavy washtub, she was suddenly attacked with pain in her abdomen, followed by bladder trouble, which was not present formerly; for a full week complete retention of urine existed, after which followed a continuous dribbling of urine. Constipation. She was seen by Schatz on November 26th in a condition of extreme exhaustion, elevation of temperature, and a rapid pulse. Examination revealed a gravid incarcerated retroflexed uterus. The urine was putrid, containing mucus and pus. The patient died after several days, premature delivery having taken place seven hours before death. In this case the autopsy showed the entire mucous membrane of the bladder, with the greater portion of the muscular structure, to be detached and lying loose in the viscus. The inner part of the membrane consisted of uric acid crystals, elastic fibres, fibrin and mass of detritus. Of the normal structure of the mucous membrane and epithelium very little could be seen.

*W. Moldenhauer* (*Archiv f. Gyn.*, Vol. VI., p. 108) reports a case similar to Schatz's. Retroflexed gravid uterus as the cause of the cystitis. Fatal termination.

*S. Brandeis* (*Arch. f. Gynaekologie*, Vol. VII., p. 189). Retroflexed gravid uterus; portion of mucosa exfoliated. Recovery.

*Moritz v. Madurowicz*, Krakau (*Wiener med. Wochenschrift*, 1877, Nos. 51 and 52). Patient IIpara; pregnant in fourth month, with a retroverted uterus and retention of urine, which passed in drops with much pain; fever; pain in the back and lower part of abdomen; constipation. The uterus was replaced and patient felt better; the urine, however, became more turbid, thicker and foul, containing more and more connective tissue. There was no control of the bladder, there being a constant dribbling, and evidence of larger quantities when the catheter was used. On the twenty-seventh day of illness, when the introduction of the catheter was tried, a membrane of offensive odor was found to obstruct the urethra. The catheter was introduced alongside of the membrane and a quantity of putrid urine was discharged. On the following day the membrane was discharged spontaneously. It was necrotic, of about the thickness of the forefinger, 2 cm. in length, and included the entire thickness of the bladder wall with a portion of the peritoneal covering. Patient recovered.

*Dr. Martyn* (Trans. of London Path. Soc., Vol. XV., November 17th, 1863) reports a case of a IVpara, confined April 18th, 1863. Bladder trouble began four days after delivery, ceasing in two weeks. One month later, vesical symptoms again developed, and the membrane was expelled in two pieces; the patient recovered, so that at the end of ten months she was able to walk, but the bladder remained weak. Symptoms were



pinched and anxious features, patient lying on her back with raised knees. Very quick pulse. Belly distended and tender on pressure. Intravaginal swelling. Constant dribbling of urine, which was highly offensive and ammoniacal, gradually becoming more and more putrid, with copious deposits. Symptoms of obstruction of the urethra were present. On the slough was a great deal of grit consisting of phosphates.

*Spencer Wells* also reports cases in the Transactions of the London Pathological Society. One, a primipara, æt. 22, confined August 20th, 1862. Death occurred October 16th, 1862. The sac, on autopsy, lay loose in the bladder. Another case was also a primipara. Forceps delivery in October, 1862. On December 3d, membrane was noticed to come away in shreds. The urine was not examined until three weeks after delivery, when it contained blood, pus, albumin, renal tube casts, and chylous matter. Reaction alkaline.

*M. J. B. Hurry* (*Edinburgh Med. Journal*, May, 1884) and *Krukenberg* (*Arch. f. Gyn.*, 1882) each report a case.

*Dr. J. H. Aveling*, in the meeting on March 3d, 1883, of the London Obstetrical Society, showed a cast of the female bladder. Primipara, forceps delivery. Urine was not passed properly for three days, it dribbling away during this time; abdomen enlarged. On the fifth day, a catheter was used and a quantity of dark, thick, and offensive urine withdrawn. Three weeks afterwards, something caused obstruction to the flow of urine through the catheter, upon which the urethra was dilated, when a rush of urine followed, and a white membrane appeared at the orifice of the urethra. This was extracted and proved to be a portion of the exfoliated mucous membrane of the bladder. No muscular tissue was present upon it. The patient recovered, but incontinence of urine remained.

*Dr. Graily Hewitt* also showed a similar specimen before the London Obstetrical Society, the disease resulting from prolonged retention of urine after delivery.

*Frankenhäuser* (*Arch. f. Gyn.*, '77, and Franz Ribincknar, thèse citée, p. 25). Patient æt. 39 years., VIIpara; was admitted in the clinic November 29th, 1875. On the night of November 18th, patient got out of bed to perform some duty for her youngest child. Suddenly she noticed an intense desire to urinate, which inclination she could not satisfy; up to that time no abnormal function of the bladder had ever been noticed. The desire to micturate became more urgent from hour to hour. On the following day a physician was sent for, who treated the patient with two catheterizations daily. Twice subsequently the patient could pass urine voluntarily after a hot bath. On November 23d, uterine contractions set in, which were supposed to premise an abortion, and an unsuccessful attempt was made to extract the fetus. A tumor in the posterior wall of the uterus was then thought of by the attendant. Finally, when the patient began to get exhausted, she was sent to the hospital. In-

continence of urine had existed the entire time. The urine had a putrid odor. There had been loss of sleep and appetite since the beginning of the illness with severe pains about the region of the bladder and introitus vaginae; no vomiting. Bowels moved only after administration of a cathartic dose of castor oil. On admission, general condition bad. Temp. 101.1° F. Pulse 126. Patient anemic. The bladder presented a tumor in the median line reaching to the umbilicus; several glasses of brownish urine, which was cloudy and mixed with pus and blood, were at once withdrawn with a silver catheter. In consequence of the continuous dribbling of urine, the vulva was very much inflamed and appeared covered with a diphtheritic exudation. On examination, a retroflexed gravid uterus of about the fourth month was discovered. Reduction was easily accomplished in the knee-chest position, and the bladder irrigated. December 6th, patient looks and feels better; the appetite is gradually returning. The urine continues to dribble; catheterization must be continued. The vesical region is somewhat tender to touch; the odor of the urine is not so offensive; it does not contain quite as much blood, but considerable pus. Notwithstanding abdominal and lateral position, the uterus fell backwards again, and replacement was very painful. Slight amount of fever present. Pulse 108-120. On the 13th, the condition was better; temp. normal; in the evening 100.4°. Pulse 100. The patient now aborted. Hemorrhage was very profuse and the placenta had to be scraped away manually.

December 20th. No fever; good appetite, and can sleep better. After the abortion, the urethra was dilated to such an extent that the irrigating fluid, in washing out the bladder, returned alongside of the largest size canula; only in the genu-pectoral position was it possible to keep a small quantity of fluid in the bladder.

Dec. 27th and the previous days, small pieces of the necrotic mucosa were expelled spontaneously or extracted through the urethra. Pain very intense. On the morning of this date, a necrotic mass, as thick as the thumb, showed itself at the urethral orifice. It was extracted in the evening with very little bleeding by Prof. Frankenhäuser. The extracted piece included the greater part of the bladder wall with a fragment of the peritoneum. On January 3d, immediately after extraction of a gangrenous portion of the bladder, patient had a chill, with temperature of 102.2° F., pulse 126, and vomiting. The following day temperature normal, pulse 100. Urine passes constantly; the insufficiency of the sphincters is such that not a drop will remain in the bladder, which is washed out four times daily. On the 25th of January, erysipelas appeared about the genitals and back, with a temperature of 103.6°, pulse 126. This subsided and the patient gradually improved. On Feb. 19th, the capacity of the bladder was found to be 50 c.c.; uterus retroflexed. By treatment (dilatation), the bladder capacity was increased to 150 c.c. A Hodge

peccary was introduced. On April 2d, the patient left the hospital, and was treated subsequently in the out-door department.

*Pinard and Varnier* ("Annales de Gynécologie et d'Obstétrique," November, 1886, pp. 346-354). Patient, æt. 21 years, came under observation on April 23d, 1885. One year previous she had a child, the delivery being terminated with forceps on account of weak labor pains; this was followed by profuse hemorrhage, and the patient was compelled, by extreme weakness, to remain in bed for one month. After this, good health returned.

In December, 1884, patient ceased to menstruate, but felt perfectly well up to about April 8th, when, after a long walk, she noticed pain in her abdomen, as though a weight was coming out of her bowels. From this moment the bladder functions were compromised, especially at night; frequently she had to strain ten to fifteen minutes to pass a little urine, which, she said, was quite normal. The straining was not painful. Eight days later, on the 16th of April, she was suddenly attacked with complete retention, which lasted the whole day. A physician, sent for in the evening, withdrew without antiseptic precautions a large quantity of urine. On the following day catheterization had to be done again. On the advice of a midwife, who feared an abortion, the urine was no longer taken. Now violent abdominal pains set in, and urine was not passed except under the influence of abdominal pressure, retching, and vomiting.

In consideration of the symptoms, after diagnosing a retroversion of the gravid uterus, the physician attempted reduction of the displacement, but failed. On the 23d, she was admitted into the hospital in Prof. Bouchard's service, where two litres of foul, albuminous urine, mixed with small shreds, were withdrawn with the catheter.

The abdomen was distended, but not very tender to touch. Temperature, 104° F. in the evening. On the following day, temperature 102.2° F.; evening, again 104° F. Frequent irrigations of a three-per-cent boracic acid solution. Temperature from the third day normal, but on the evening of the fifth day again 102.2° F.

On the 28th of April, *i. e.*, five days after admission, she was transferred to the service of Pinard. Patient was pale, and had a marked loss of flesh. Pulse 90, temp. 102.2° F. Abdomen unequally distended. In the median line an elastic fluctuating tumor (bladder), extending two fingers' breadth above the navel, was felt. The catheter removed 300 gm. of thick, foul, sanguinous urine. On examination with the bladder empty, a mushy body, with round convexity, was felt behind the bladder, pressed against the rectum. The parametria were free. Palpation about the hypogastrium was painful.

Turner saw the patient on the following day, and corroborated the diagnosis of retroversion of the gravid uterus.

Attention was directed only to the purulent cystitis. The

urine was taken every three hours, followed by sublimate irrigation 1 : 2,000.

On May 6th, pain much severer; abdomen distended.

On the 7th, condition slightly better; later, sudden collapse; pulse 130; respiration 40; uncontrollable vomiting; universal erythema, most marked in face and on chest; septicemia; 200 gms. of urine per catheter. Death occurred at noon the following day.

Examination by Clado, reported by authors (*Ibid.*, February, 1887).

"In the case observed by us, we had a detachment of the bladder mucosa, much inflamed, changed, and with a portion of the muscularis attached. The structure of the mucosa is composed of a number of elements (embryonic) held together by connections of diminutive size and small in number. Beneath these we find numerous blood-vessels, which present occasionally, on cutting, a cavernous picture; these vessels are filled with blood-corpuscles, and are evidence of a previous injury. Deeper, we find muscle fibres. There are no epithelial cells present on the surface which can remind us of the bladder epithelium. This was probably destroyed by the intensity of the inflammation during the life of the patient."

A second fragment, which was taken out of the bladder post mortem, showed the mucosa to be in the same condition as the first. Here and there the muscularis is naked, where the mucosa has been detached. No evidence of an epithelial stratum.

H. J. Boldt (*Trans. N. Y. Path. Soc., N. Y. Med. Rec.*, October 31st, 1885). Patient æt. 18 years and 8 months, primipara, confined Sept. 18th, 1885, of a healthy, medium-size male child, in L. O. A. position. Previous history good. Pregnancy and labor normal. On Sept. 21st, the patient began to complain of colicky pains in the hypogastrium and pains in the lumbar region; both were tender on pressure, but nothing further unusual was noticed on examination. Micturition gave no pain, and seemed to be at normal intervals for that period after delivery, four to five times in twenty-four hours. The bladder, however, was evacuated by catheter at that time, with antiseptic precautions, and about four ounces of urine were withdrawn. This had a slightly acid reaction. Specific gravity 1.022; contained albumin, blood, small quantity of pus, renal tube epithelium, bladder epithelium, and phosphates. Diagnosis: Acute catarrhal nephritis with hemorrhage. The axillary temperature varied from 101° F. to 102.6° F.

On September 26th, the patient began to complain of tenesmus and dysuria. The straining was severe and continuous. The catheter was again used, when eight ounces of thick, bloody, muddy-looking urine, having a putrid ammoniacal odor, was withdrawn. It was of alkaline reaction; sp. gr. 1.005; contained albumin, blood and pus in large quantities, shreds of connective tissue, renal tube epithelium, bladder epithelium—all

three layers—the caudate-shaped epithelium of the deepest layer predominating. The bladder from this time on was regularly washed out with carbolated water 1:150 on account of the existing cystitis. The temperature was 99° F., and did not vary more than one degree either way until October 2d. On the morning of this date, information was given that the patient had spent a very restless night and had more pain in the hypogastrium than previously, and that she thought something prevented her from micturating; it felt like a small lump near the urethral orifice. The temperature was 101.4° F. On inspection, a small sac, about the size of a bean, was seen protruding from the urethral orifice. A bimanual examination, which was rather unsatisfactory on account of extreme tenderness over the bladder and intra vaginam, revealed an edematous and very painful swelling on the anterior vaginal wall, just above the symphysis pubis. The position of the uterus, on account of existing tenderness, could not be made out. Turning again to the small mass, which was taken to be either a part of the urethra inverted or the inverted bladder, it was found that it could be easily reduced, and then the bladder was washed as previously. Several hours later, the sac was found protruding again, and then about the size of a small walnut, emitting an extremely fetid odor. I now felt almost certain that I had an inverted sloughing bladder to deal with. Reduction of the sac was necessary before washing of the bladder could be accomplished. The temperature was then 103.2° F., but went down to 101.6° F. about an hour after the viscus was cleansed. Early in the afternoon the sac-like mass was protruded again; much pain, tenesmus, etc., being present; temperature, 103.8°. The bladder was now washed out almost continuously until the temperature went down to 101.8° F. Drs. W. T. Lusk and Van Wyck, who saw patient in consultation, agreed in diagnosis and treatment.

Lusk thought, after examination of the patient, that the intravaginal swelling felt and, apparently fluctuating, might be an abscess between the walls of the bladder, but the use of an aspirator disproved this. On the following morning, soon after washing out the bladder, a large membrane, which I termed a “cast of the bladder,” was discharged, the thick portion which first protruded was first expelled. Immediate relief was experienced by the patient. (The “cast” seemed to be the greater portion of the lining membrane of the bladder.) The washings at first always contained blood, pus, shreds of connective tissue and muscular structure. The temp. previous to each washing being 101.2°–101.8° F., always fell from 1–1.2°. Incontinence of urine was persistent to the end. The microscopical appearances of the urine remained as formerly, only more muscular structure could be seen by the naked eye, and verified by the microscope. Throughout the course of the case the urine always contained large quantities of phosphates.

From October 5th, something seemed to obstruct the intro-



duction of the catheter at a point, by measurement,  $2\frac{1}{2}$  inches from the orifice of the urethra; pain was produced by the introduction beyond  $2\frac{1}{4}$  inches. Patient felt again as though a lump was lying in the urethra.

October 9th. Patient had spent a restless night, nothing otherwise unusual was noticed; temp.,  $101.4^{\circ}$  F. At 5 P.M., very restless; pulse 140, temp.  $103.4^{\circ}$ . 8 P.M., temp.  $104.8^{\circ}$  F., pulse 150 and feeble. I thought exfoliated muscular structure might be in the bladder, giving rise to the obstruction to the introduction of the catheter. An examination with the finger per urethra disproved this. The remainder of the walls of the bladder were very much thickened, infiltrated and edematous, and the cavity much diminished. With the exploring finger all sides of the bladder were readily felt, and all parts seemed denuded of the mucosa, except just around the internal urethral orifice. A few rough spots on the sides and at the fundus were also felt; probably from these the muscular tissue came, shreds of which were continuously found in the urine, upon the napkins, and in the washings. About an hour later, patient began to develop cerebral symptoms.

At 1.30 A.M. of October 10th, the temp. was  $106.4^{\circ}$ ; pulse imperceptible, despite of antipyretics and stimulants used in large doses per rectum, as nothing would remain on the stomach. Cerebral symptoms very marked. At 1 P.M., October 10th, death took place.

Vomiting, constipation, and hiccough were prominent symptoms throughout the disease; the vomiting and hiccough almost uncontrollable the last few days.

Report by Dr. Waldstein of the Com. on Microscopy (Ibid., October 31st, 1885.) "Transverse sections show that the specimen is composed of fibrous tissue in process of granular disintegration, between the fibres of which are found a series of large distended, generally rounded spaces, either entirely empty or partly filled by a finely granular mass and a delicate network of fibrin; a state of edematous imbibition of the submucous tissue. Muscular elements are comparatively rare throughout, those demonstrable have undergone either a granular or more hyaline degeneration, the nuclei being faintly and diffusely stained by the reagent. The blood-vessels are in many places densely filled with blood-corpuscles, and surrounded by small hemorrhagic foci; most generally, however, they are found empty and their walls degenerated, while the nuclei have disappeared. Epithelial covering or glandular structure the committee have not been able to make out. The thickness of the specimen can be accounted for by the edema of the tissue."

*Etiology.*—The most frequent cause of this disease is posterior displacement of the gravid uterus, in which condition the most dangerous symptoms arise from the bladder. In a very



able article by Pinard and Varnier,<sup>1</sup> they state that in the consideration of the symptoms and pathology of retroversio uteri gravidi, the uterus is nil, but the bladder, on the contrary, is everything. Although this seems to me to be carried a little too far, yet in the main I agree with it.

Another frequent cause is undue or too long continued pressure of the presenting part of the child on the bladder during labor, especially when the viscus is full. Next comes the improper use of instruments, and neglect to inquire after delivery as to the functions of the organ, together with the delayed use of the catheter, if the information is at all doubtful. A cause, which is considered to have given rise to the disease in my case, by Dr. C. Heitzmann from examination of the urine made by him at different times, is the extension of the inflammatory process from the kidneys downwards to the ureters, thence to the bladder. Personally I cannot yet share this view. If we have an inflammatory process extending from the kidneys down towards the bladder, the disease would not be so destructive to the tissues composing it, and as yet there is no other case on record where such could be considered as the causative moment.

The cause of the exfoliation *en masse* may be looked for in the long-continued physical distention of the bladder, in connection with the caustic action of the ammoniacal urine.

There are frequently present smaller or larger involuntary evacuations of urine, or there may be persisting incontinence from overflow, so that the urine dribbles drop by drop continuously. Decomposition of the urine then takes place, it loses its acidity, becomes alkaline and putrescent, and cystitis, more or less rapidly developed, is the consequence. Such occasional evacuations, or incontinence, or both may mislead the physician, he may be taken off his guard and when too late he discovers his unintentional neglect; but even if he does catheterize when first called, if this occurs when the condition has existed some time, it may be too late to allay the mischief; and the treatment, the introduction of the catheter, admitting air into the bladder, then hastens the decomposition process; or again, although the catheter be introduced, the expected escape of urine does not

<sup>1</sup> Contribution à l'étude de la rétroversion de l'utérus gravide. Annales de Gynéc. et d'Obstét. Fév. et Mai 1887.

follow. Why? Localized necrosis has already begun and shreds of membrane are low down in the bladder, which at once clog up the eye of the catheter and only a few drops or none at all will flow, or again, the dissecting process may already be entirely completed, the entire mucosa lie loose in the bladder, and the natural urethral opening in the mucosa have become closed by agglutination or edematous infiltration, then the urine will be inclosed in this sac and none will follow the use of the catheter. Such conditions as the latter can, however, only take place in very rapidly progressing cases, where no urine has had an opportunity to escape between the walls of the mucosa, connective tissue, and muscular structure by way of previous small denudations caused by the gangrenous process.

*Pathology.*—The first changes observed in the bladder are those of an ordinary cystitis, as is shown by the condition of the urine. There is alkalinity, increase of phosphates; pavement epithelium of the first and second layer of the bladder, and pus. A little more advanced stage shows the caudate epithelium of the deepest layer, blood, connective tissue, and, according to the intensity of the disease, also muscular structure. If the kidneys are involved, as is usually the case, to a greater or less degree, in severe or in long (*i. e.*, more than two weeks') standing cases, there will also be renal epithelium, epithelium from the pelvis of the kidney, perhaps also renal casts in the urine.

The walls of the bladder are much thickened by inflammatory and serous exudation (edema), and if there is paralysis of the urethral sphincters, and no obstacle present to the egress of urine, so that none remains in the bladder at any time, as in Frankenhäuser's, mine and other cases, the cavity of the bladder will be much diminished from the hypertrophy of the muscular structure of the walls, edema, etc. To what extent this may be, can be seen by from Frankenhäuser's and my case.

Suppurative exfoliative cystitis may be divided into three degrees:

When the mucosa and connective tissue are involved, it is of the first degree.

The second degree: When the muscular structure is also implicated in the exfoliation.

Third degree: When the destruction has gone so far as to cause a portion of the serosa to be exfoliated.

When the separation commences, it is apt to begin at a point where the external pressure, which is opposed to the dilatation of the bladder, is least manifested—this is at the fundus opposite the neck of the bladder (Schatz); there also the consequences of unequal elasticity first show themselves if existing among the membranes composing the walls of the bladder. While the peritoneal covering and the external muscular coat are quite distensible, the internal muscular layer and the mucosa reach their border of elasticity much sooner. Separation then begins between these structures and the intervening space is filled with blood and serum; if localized necrosis has taken place previously, which usually is the case, decomposing urine and pus are also added to the dissecting agents. The dissection then proceeds downwards towards the neck of the bladder. It is this mode of separation which causes the sac-like mass when the mucosa is exfoliated in toto, or nearly in toto, to appear at the urethral orifice, and not the margins of the mucosa. In other words, the mucosa, with or without muscularis, is pushed down by the process of dissection from above, so that the fundal portion of the mucosa first presents itself exteriorly.

If bladder washings have not taken place during the treatment, the mucosa will be found covered, more or less, with crystals of the urinary salts; if, however, cleansing of the bladder has been practised from or soon after the beginning of the disease, the exfoliated portion will contain few or no such crystals.

On microscopical examination—transverse section—the portion cast off from the bladder consists of fibrous tissue in the process of granular disintegration. Between the fibres of connective tissue will be found numerous small spaces which present a cavernous appearance. These spaces may be empty or filled with blood; some may be partly filled by a fine granular mass and a delicate network of fibrin. If the exfoliation be of the second degree, muscular elements are also seen; these may appear normal or swollen, and they may also be in a process of granular or hyaline degeneration. The blood-vessels will usually be filled with blood. Normal bladder epithelium is invariably absent, having been destroyed by the intensity of the

inflammation. The destructive process may be so severe that the peritoneum becomes entirely destroyed, or very nearly so, when the slightest movement can produce rupture of the bladder.

The kidneys are congested, and show parenchymatous changes, if the disease has existed for some length of time, or symptoms of septicemia have been present. The pelves of the kidneys are moderately dilated, not so the ureters.

Evidence of pelvic peritonitis is present in all severe cases ; this may extend and become general. There is also more or less urethritis from local irritation. Vaginitis is to be looked for. Parametritis may be so severe that formation of pus may take place.

*Symptoms.*—If occurring during pregnancy, there will be a history of retention of the urine. Usually the bladder trouble has existed a number of days, when the physician is consulted. The patient has the desire to micturate, but is unable to do so. As already stated in the etiology, there may also be constant dribbling or occasionally a larger quantity of urine passed.

The suppression of urine may be quite sudden. A woman pregnant can have her uterus displaced suddenly by a fall, as I have personally observed several times. In such cases, my experience has been that the attention of the physician, if consulted early, is not directed (by the patient) to the bladder symptoms so much as to those arising from the displaced uterus. If bladder symptoms are present, and the catheter is used, the obstacles which may be encountered, and the confusion they may lead to, as noted previously in the etiology, must be borne in mind. The consideration of the usual symptoms of a retroflexed or retroverted gravid uterus, such as severe dragging pains, constipation, etc., etc., not being within the scope of this paper, I shall omit, as also the condition of the intra-pelvic organs, as revealed by examination.

Now, taking it for granted that the malposition of the uterus has been rectified, and that this form of cystitis exists, there are apt to be present chilly sensations, perhaps rigors and sweating, pain in the hypogastrium, which is increased by pressure ; this may become excruciating, and extend over a large area, even the whole abdomen. The abdomen feels distended to the patient, even though the bladder be empty. If this viscus has not been emptied artificially, palpation and percussion will

show it as a tumor (in the median line) rising above the brim of the pelvis, perhaps as high as or above the umbilicus. Vaginal examination is painful, and a swelling may be felt on the anterior vaginal wall at its junction with the vaginal portion of the cervix. This swelling feels edematous, and is exceedingly painful to touch. It may be mistaken for an abscess between the vagina and the wall of the bladder. The pulse is accelerated from 100 to 120. Vomiting, not preceded by nausea, as a rule, is frequent. Hiccough is occasionally present. The tongue is dry and parched, the thirst seems unquenchable, there is constipation. The temperature in the beginning is but slightly increased, perhaps not more than 1° to 1.5° F.; later it may increase, and if a fatal issue is to take place, it may run up to or above 106° F., when cerebral symptoms will show themselves, and the patient present the picture of uremic or septic poisoning.

It may happen that after delivery the vesical disturbance will subside after having been present a few days, to begin again later, and the characteristic membrane may make its appearance soon. If the urine is examined in the interval, the changes indicative of an intense vesical catarrh will be found. When the membrane has become detached, and lodges before the urethra, even dribbling of urine will cease, and the effectual introduction of the catheter will be difficult. If the membrane is to be expelled voluntarily, it will work its way into the urethra by the continuous expulsive efforts of the patient (*which should, however, be overcome by treatment for the reasons to be given subsequently*), she desiring to micturate continuously, bringing all the auxiliary muscles for this act into action, the urethra will become gradually dilated, and, finally, the membrane appears at the urethral orifice in the shape of a small, dirty-gray pouch. The odor it exhales is putrescent, and at once reminds us of a slough.

*Differential Diagnosis.*—The history of the case must always be considered. It is impossible to make the diagnosis from the ordinary forms of cystitis until we meet with obstruction to the introduction of the catheter or the appearance of the membrane at the urethral orifice. The affection can only be confounded with inversion of the bladder when the sac-like mass appears at the urethral orifice. Over three-fourths of the cases of inversion occur in children, the protruding tumor in

that condition being *vascular*, elastic, and pear-shaped. Careful inspection will reveal the ureters, and, when closely observed, urine may be seen coming from them. The characteristics of the exfoliative tumor have been given. It may be stated here, however, that if the small pouch, seen first, be reduced again, on the next inspection the protruding mass is increased in size, more of the detached mucosa being protruded as the urethra becomes more and more dilated. Prolapse of the urethra would hardly cause confusion. The differentiation from *beginning* peritonitis would be made by the history of the case and the examination of the urine.

*Complications.*—Peritonitis, metritis, peri- and parametritis, septicemia, uremia. The latter is brought about by the extension of the inflammation upwards to the kidneys.

*Prognosis.*—This will depend on the intensity of the disease and the complications. It is bad if the destructive process has been very extensive. If the patient does recover, it is because the base of the bladder has not been denuded of its mucosa. If the mucosa remains unbroken around the urethral orifice in sufficient area to form a receptacle for the urine, it may regenerate again from this portion. It is thus that the recoveries, even from a severer degree of the disease (as Moritz Madurowicz's case, etc.) may be explained. The contractures formed by quite extensive destructions, even of the muscularis, can be overcome in the course of time, if the necrosis has taken place at the fundus or upper half of the bladder. Incontinence of urine, however, remains for a long time, and sometimes permanently. If rupture of the bladder takes place from an overdistention of the organ, after the necrotic process has extended to the peritoneal covering, or the gangrene even taken with it a portion of the serosa, death is the result, unless laparotomy, with other appropriate surgical treatment, be performed at once.

The patient may also die from uremia or septic poisoning. When either of such complications exist, the prognosis is bad. Cases with temperatures above 105° F. and cerebral disturbance invariably die, if the elevation of temperature is due to blood-poisoning, unless a favorable change takes place within four or six hours. Persistent hiccup is a bad omen.

*Treatment.*—A displaced uterus must at once be replaced to its normal position, after emptying the bladder of its contents



by catheterization. The physician must satisfy himself that the patient has control of the bladder, and he should also carefully watch the urine for a few days subsequently. The reduction of the displaced womb must be done without undue force, and with as little pain to the patient as possible. It is best accomplished in the genu-pectoral position, passing the index and middle fingers behind the uterus into the cul-de-sac of Douglas, or in the rectum (I have found either mode serviceable, according to the case). The uterus, with its contents, is then gently carried, or rather pushed, upwards, laterally and forwards, describing a semicircle towards that sacro-iliac synchondrosis to which it is inclined. Failure will not infrequently be met with if the pressure exerted is directly upwards and forwards. To illustrate the procedure with an example: I was called in consultation to see a IIIpara, who had retention of urine and an impacted retroflexed uterus, fourth month of pregnancy. The two physicians, who asked me in council, had made numerous attempts at reduction for the past two days without success. The patient was put in the position advocated above, one gentleman assisting her to keep in *proper* position, while the other passed the index and middle fingers of each hand into the vagina, retracting side and upwards so as not to be in my way in the median line, to give me the benefit of the air pressure. With my fingers in the rectum, using this lateral up- and forward rotation, no difficulty was experienced in reduction. As yet I have not had the misfortune to fail in reduction. Should this, however, happen, and it was a matter of importance to save the fetus, I would not hesitate, with the comparative safety with which abdominal surgery is practised now, to open the abdomen to find and remove the cause of the hindrance to reduction. After the uterus is put in position, a well fitting pessary should at once be introduced, and the patient kept on her side inclined toward her abdomen. Fear, on account of the abdominal wound, need not be entertained, if it has been *carefully* closed, the peritoneum separately, and the stitches in the abdominal wall in closer proximity than for abdominal wounds under other circumstances; a well-fitting roller bandage should be applied, which is not so apt to slip up, and can be applied with more exactness than the ordinary bandage which we are generally in the habit of using after abdominal sections.

Under ordinary circumstances, if reduction cannot be accomplished, we must produce an abortion as soon as possible; the uterus once empty, the difficulty is not so great. If this fail, however, much time (in view of the gravity of this form of cystitis) should not be lost, but laparotomy should be done, as in the hands of an experienced operator the danger is almost nil.

Although the consideration of rupture of the bladder as a consequence of retroflexion of the gravid uterus without previous suppurative exfoliative cystitis does not belong in this paper, I take the liberty of calling attention to this possibility. To my knowledge eight such cases are on record as having occurred from 1765 to the present time. In a ninth case by Schwarz,<sup>1</sup> the mucosa was detached almost everywhere, nearly to the neck of the bladder. Would timely laparotomy, with the other treatment recommended by me, not probably have averted this accident? I think so. All of the nine patients died.

The most scrupulous attention must be given to the bladder, for there lies the great danger which we must endeavor to avert, and treatment must be the same in cases occurring after confinement or in connection with the pregnant state. The bladder must be carefully watched in all cases after delivery, and on the slightest doubt the catheter must be used. Should signs of suppurative or severe catarrhal cystitis exist, it should be emptied at regular intervals, and afterwards washed out with some mild antiseptic solution, as carbolic acid, 1 : 200; bichloride of mercury, 1 : 20,000; boric acid, Thiersch's solution, etc. The urine should, from time to time, be examined microscopically. If the flow of urine becomes obstructed through the catheter, as is not infrequently the case in exfoliative cystitis, by detritus clogging the eye, it must be removed and cleansed. If obstruction to the introduction of the catheter is present, the urethra must at once be dilated, under chloroform if necessary, and the cavity of the bladder explored with the finger. Under all circumstances foreign bodies, for such the gangrenous portions of the bladder are, must be removed with forceps by *gentle* traction, and we must inform ourselves of the exact condition of the bladder.

<sup>1</sup> Centralblatt für Gynaekologie, 1880.

If the disease has affected the muscularis, or has already extended to or into the peritoneal covering, the contractions of the bladder must be overcome if incontinence of urine does not already exist, so that the bladder may, on account of the danger of rupture, which is increased according to the depth of the necrotic process, be kept constantly empty. This can be done by extensive dilatation of the urethra or the establishment of a vesico-vaginal fistula; this should be made large, so as to enable débris to pass through it.

Pinard and Varnier propose the lithotomy operation in cases where the membrane cannot readily be extracted per urethram. I cannot imagine any case where such a procedure would become necessary; if the urethra be sufficiently dilated, we can get into the cavity of the bladder with instruments to remove the foreign body; if it be a closed sac, it can be punctured, and after the decomposed urine has been emptied, it can be seized and removed.

Internal medication is useless. Support the patient's strength with proper nourishment and stimulants. To control the thirst, I would advise the *avoidance* of cracked ice, this rather increasing than diminishing it, but give a little *hot* water. The necessity of the most scrupulous asepsis and antisepsis is a prerequisite from the beginning to the end.

#### A CASE OF HEMATO-SALPINX; LAPAROTOMY; RECOVERY.

---

BY

RICHARD DOUGLAS, M.D.,

Nashville, Tenn.

---

I FIRST saw Eliza Taylor March 17th, 1887. Her symptoms were indicative of acute pelvic inflammation, with temperature 104°, pulse 120, abdomen slightly tympanitic and exceedingly tender over left ovarian region.

Vaginal examination revealed excessive heat, great pain and tenderness in every part, retroverted uterus with small elongated cervix.

On the left side was found an elastic mass the size of a large orange, with well-defined outlines and distinct from the uterus.

The patient's history, though somewhat obscure, may be briefly stated as follows: Age 26, negress, unmarried, but not a virgin; first menstruated at the age of 14; flow always scanty and accompanied by great pain, but regular up to the last period, it was now six weeks since last menstruation.

Assuming the diagnosis of pyo-salpinx with an acute exacerbation of pelvic inflammation, I directed treatment local and general to allay the active symptoms. For five days there was no apparent benefit; on the morning of the 23d I was called hastily, found her in a state of collapse.

I at once suspected extrauterine pregnancy with rupture, but regarded the case as too hopeless for operative interference. To my surprise, however, she reacted and improved every day, temperature falling to about 100°.

April 3d she suffered a severe rigor, was again greatly depressed, with reactionary temperature of 104°. My diagnosis now was pyo-salpinx.

April 5th, after the necessary antiseptic preparations, and with kind and valuable assistance, I opened the abdomen. A large elastic tumor, of dark color, was found in the folds of the left broad ligament; it was firmly adherent to all surrounding parts, and in my efforts to free it, the sac was opened. A pint or more of partially clotted blood and purulent contents escaped into the peritoneal cavity. After removing this material and thoroughly cleansing the cavity, the ovary was examined and found to be somewhat enlarged.

The Fallopian tube was very much enlarged, walls thin and flaccid. Upon the under surface of the tube was found a rupture half an inch in length, *which lesion had evidently occurred several days before*. The tube and ovary were then extirpated. The right tube and ovary being normal were not disturbed. After repeatedly washing out the cavity, the excellent drainage tube devised by H. Marion Sims was introduced. The incision was closed with catgut and wire suture, and ordinary antiseptic dressings were applied.

The patient was now in a state of extreme shock. Acting upon the suggestion of Dr. Wylic, I irrigated the cavity through the tube with a gallon or more of hot Thiersch's solution.

The stimulating effect was observed at once. The pulse improved, reaction speedily took place.

Nothing occurred in the progress of this case worthy of note until the third day, when the temperature rose three degrees, and the abdomen became slightly tympanitic.

A small dose of sulphate of magnesia was given, bowels moved freely, the threatening symptoms passed away. After the operation, the cavity was irrigated every six or twelve hours as deemed necessary, until the fifth day, when drainage tube was removed. In four weeks she was discharged as well.

It is now eleven months since the operation; she has continued in excellent health.

This case is worthy of record for the following reasons:

1st. The diagnosis of pyo-salpinx seemed clear, yet, after opening the cavity, a somewhat different condition was found. Whether it was a case of tubal pregnancy with rupture, or simple hemato-salpinx, I cannot say.

2d. The patient suffered from chronic pelvic inflammation: sudden shock had occurred on the third and thirteenth days previous to opening the cavity.

Dr. Mundé, at a meeting of the New York Obstetrical Society, December 15th, 1885, remarked that he had observed "sudden and obscure shock to occur during chronic pelvic peritonitis." In this case, shock was certainly due to the rupture and hemorrhage.

3d. There was no perceptible change in the tumor following the shock.

4th. Thanks to Dr. Wylie's hint, hot water saved her from death at the time of operation.

5th. Her ultimate recovery was largely due to the efficiency of Sims' drainage tube.

## THE PHYSIOLOGICAL ARGUMENT IN OBSTETRIC STUDIES AND PRACTICE.

BY

A. F. A. KING, M.D.,

Washington, D. C.

(Being the Presidential Address delivered before the Washington Obstetrical and Gynecological Society at the Annual Meeting, October 7th, 1887.)

In the obstetric literature of the present age, as indeed in that of all past ages, so far as our records present it, we continually find the master-students of obstetric science—the leaders of our art—and not only them, but also the less scientific local practitioner, in his thoughtful application of remedies—we continually find them making use of some such expressions as these: The birth of a child is a physiological

process and therefore requires, in natural cases, no assistance. Expulsion of the after-birth is a physiological process, and therefore requires, in natural cases, no assistance. The lower animals—the dumb beasts—bring forth their young without artificial aid, why should not the nobler organism of a human female do the same? These, and such like thoughts as these, not only find a place in scientific discussions, but also exert a tremendous influence in determining methods of practice. In fact, it may almost be said that, with many practitioners, their valuing or not valuing this physiological argument will go far towards determining whether they will or will not use antiseptics; whether they will or will not use placental expression; whether they will or will not apply the abdominal binder, support the perineum, administer medicines, or expedite delivery by forceps, and so of a host of other methods, the use or non-use of which may be questionable. Evidently, then, it becomes of the utmost importance that the legitimate place, the true value and bearing of this so-called physiological argument should, if possible, be defined. If it be fallacious, let us eliminate it altogether. If it be of partial value only, we should seek to understand with what qualifications it can be admitted. Far be it from me, in this brief address, to assume the settlement of these important questions in any very definite way. This would require a long discussion and perhaps a longer head than mine. I may, however, contribute a thought or two upon the subject that may be profitable. It may here be premised that what I have to say will tend, rather than otherwise, to show that this physiological argument *is* fallacious, or, if not really fallacious, that its applicability is much more limited than is generally supposed.

We all agree that the main source of progress in obstetric science, as in other departments of medicine, grows out of our studying and understanding Nature. Every abnormal phenomenon observed, can only be called abnormal when it is found to differ materially from what is normal. This implies the definition and recognition of a normal standard or unit of comparison, and further, that which is perfectly normal or natural cannot be improved by art. It therefore *appears*, and *is*, quite rational and logical for the obstetrician to act upon the statement that “*natural* labor needs no assistance.” But will he be good enough to *define* his “*natural* labor”? And,



having defined it, will he further state, how often it is met with among the women of highly civilized communities. If the "natural labor" cannot be defined, and cannot be encountered if it could be defined, where shall we discover a proper place for the practical application of this physiological argument? Now, I think, the truth is, that a perfectly natural labor—which implies a natural woman in all respects normal with regard to age, strength, formation, occupation, dress, and other hygienic surroundings, one whose gestation and sexual relations have been normal, whose surroundings at the time of delivery and during her lying-in are in all respects normal: one whose natural instincts have been in no way perverted or misdirected by education, or the instruction of other persons, and thus we might add many other ingredients in the definition. I say, the truth is, a perfectly natural labor, among civilized communities, is a decidedly *rara avis*, so seldom met with in practice that the application for the physiological argument is extremely limited. The obstetric work, assuming to define the management of a really natural labor, should begin somewhat in the same way as did the author of a work on the culinary art while discussing the method of cooking a hare: "first, catch your hare!"

I beg to maintain that, in the present age, and among civilized communities, a case of perfectly natural labor must be, in great part, a *hypothetical case*; or rather, it must be a case made up, so to speak, of fragments of normality, some taken from one woman, and some from others, which, when properly put together, reproduce the ideal type of a perfect specimen now almost extinct; just as the archeologist puts together the fossil bones of an extinct animal, and, adding to them what his knowledge teaches him is missing, at last reproduces some ancestral form that has long ceased to exist. When we consider the numerous influences and disturbing factors which social customs impose upon the female, with regard to the whole process of reproduction, we cannot be surprised to find perfectly natural cases extremely rare. And as such disturbing causes are more frequently present than absent, it cannot by any means be just to judge of normality simply by frequency of occurrence, as is usually done.

To present only a few of the disturbing influences referred

to, and which occur so commonly as to be almost universal, let me mention :

1st. The continuance of *coitus* after conception and during the greater part of pregnancy—a proceeding entirely outside the bounds of physiology, the parallel of which cannot be found in the whole animal kingdom, and which is an outgrowth purely of sociological evolution.

2d. The artificial appendages of dress, and, in particular, of corsets. In the supple abdominal wall where Nature has wisely placed no ribs at all, custom has added ribs of brass, and woman grapples them to her spine with hooks of steel.

3d. Almost every lying-in woman is subjected to a digital examination per vaginam, an operation frequently repeated by the physician, or physicians, and perhaps by the nurse. Is this a natural proceeding? Can its parallel be found among the animals?

5th. From exhaustion following labor, or for prudential reasons growing out of the necessities of the case, a woman remains “nine days” on the bed where she has been delivered. Do the animals wallow for nine days on the same spot where *they* have been delivered? Emphatically not, even though that spot be the cool antiseptic earth, a far less dangerous couch than the soiled clothing and super-heated appendages of a modern feather bed or mattress, and which last may not have entirely escaped from the absorption of blood, urine, lochia, and liquor amnii.

6th. From the necessity of recumbency for some days following delivery, drainage from the uterus and vagina, by gravitation, is interfered with in the civilized woman. On the contrary, the uncivilized woman, as well as the animals, after natural labor are able to rise and walk, and thus promote drainage by gravitation.

7th. With the animals, and with barbaric women, and with some of the poorer women of civilized communities, the necessary struggle for existence, the labor required to obtain food and the means of living, are sufficient to develop a strong nervous system and powerful muscles, by which the work of parturient labor is easily accomplished; while, on the contrary, the pampered daughter of fortune, whose food is purchased with inherited gold, whose muscles languish and wither in idle inactivity, and the powers of whose spinal cord are soon exhausted,

drifts into tedious labor and requires the aid of forceps to accomplish delivery. These two classes of cases cannot both be included in "natural labor." And yet nothing may be wrong with the reproductive apparatus: it is the nervo-muscular system that is in fault.

8th. With the civilized woman, when the child is born, *it is immediately taken away from her* and cared for by another, the nurse or physician. The barbaric woman, on the contrary, is able to rise and take care of the child herself, and so do the animals. I have thought it not improbable that this apparently trifling difference may have a very material influence in creating the necessity for artificial aid in placental delivery. We have learned by experience that pressure upon and kneading of the uterus and the application of the child to the breast, secure uterine contraction and promote expulsion of the after-birth. But there is every reason to believe that what we have learned to do artificially on this point would be done by Nature in a purely physiological state. Imagine, for example, what would be the conduct of a human female—a primipara if you please—totally uninstructed and quite ignorant of her maternal duties. We may even go so far as to suppose (for, as I have said, in these modern days such cases must be hypothetical) that she is even ignorant of her pregnancy, not understanding nor caring to understand the cause of her abdominal enlargement, and perhaps mistakes her pains for a bad attack of colic or illness. But there soon comes the moment of ease and of joy, and she hears the infant's cry. Can it be otherwise than that maternal instinct and affection and curiosity will at once prompt her to sit up, take the child in her hands, and attempt to fold it in her arms upon her bosom, when it will immediately suck the nipple. But the placenta is yet undelivered (or may be so); it may be still in the uterus, but more likely in the vagina, or more likely still in the os uteri, projecting partly into the vagina, and requiring only a few moderate uterine and abdominal contractions to expel it entirely. And these contractions will be produced by reflex irritation of the nipple while the child sucks, or, if the length of the umbilical cord be not sufficient to permit the child to reach the breast, it (the child) may at least be placed upon the lower part of the abdomen where, by its weight (eight or ten pounds) and the never-ceasing squirming of its feet and knees, the fundus uteri will receive

both the pressure and the kneading necessary to invoke uterine contraction and placental expulsion, a result still further promoted by the pressure of the woman's abdominal viscera upon the fundus uteri, as she leans forward to get the child to her breast, and also by the action of her abdominal muscles and diaphragm, which she is able to exert (and does exert by an involuntary straining effort) with far more efficacy than she could possibly do if lying stretched out upon her back. It is not impossible that the vibration of a crying child's voice upon the abdomen, coupled with the emotions it produces in the mother, may contribute to promote contraction of the womb.

Now, if these hypothetical views be correct—and they are not *entirely* hypothetical either, for pressure and kneading of the uterus *will* stimulate uterine contraction whether applied by means of a child or by the hand of an assistant—if these views be correct, it is evident that in the most “natural labor,” as we in modern times understand that term, *the very means which Nature has provided and designed to promote placental expulsion are, in the civilized female, taken away from her, and hence the necessity of some artificial substitute* which is supplied, and rightly supplied, by the hand of the accoucheur. Under these circumstances then, how very crude, thoughtless, and illogical will it be to argue that in “natural labor” artificial aid in delivering the placenta is unnecessary.

In such of the domestic animals as I have watched during parturition, the new-born young proceed at once to the nipples, by which, I presume, reflex uterine contractions are excited to expel the secundines; while in human obstetrics, the child is seldom put to the breast until some time after the placenta has been delivered by artificial aid.

9th. Experience has taught the modern obstetrician that certain dangers are avoided, and a degree of comfort secured to the lying-in woman, by the application of an abdominal binder after delivery. Nothing of this sort is needed for safety and comfort in the lower animals, nor, I suppose, among barbaric women. Hence the inference, not infrequently drawn, that in “natural labor” among civilized women this artificial appendage is unnecessary or harmful. But those who reach this inference forget that the posture of our civilized women, after delivery, is recumbent instead of erect, a posture tending to relax the abdominal muscles, and thus leave the uterus with-

out its normal support. They forget also that the muscles of the abdominal wall themselves are frequently atrophied from disuse, and perhaps deformed and enfeebled by the previous cramping and compression of corsets, belts, and skirt strings, which may have exercised their baneful influence continuously for years prior to conception.

In the thin, idle, sedentary "girl of the period," we should no more expect to find a strong muscular abdominal wall than we would expect to find the muscles of a Western woodchopper in the arms of those abominable imitations of humanity of the male sex which we term city "dudes." The hinder, then, is an artificial appendage, but it mends a defect that has been artificially produced.

10th. Those who accord the physiological argument more than its full value are disposed to ignore in a "natural labor" the several methods devised for preventing laceration of the perineum. But they forget or fail to recognize that even in these "natural labors" the perineal structures are quite often unnaturally thin, rigid, and perhaps poorly developed or partially atrophied, like the abdominal muscles. And they forget also, what I here desire in particular to accentuate, that at least one of the means which nature has provided to facilitate the transit of the head through the vaginal canal and vaginal outlet, viz.: the *luxurious layer of lubricating mucus*, has been repeatedly disturbed, broken up, and withdrawn by the examining fingers of the obstetrician. I cannot here enter into the etiology of perineal rupture, but I think the ingredient of *lubrication* has not received the attention which it deserves. If one should attempt to force an artificially constructed globular body through a tight-fitting, pliant, elastic tube, in one instance *with*, and in another *without* lubrication, the facility and difficulty of the operation, in the two cases, respectively, would be strikingly manifest. So, in labor, especially when it is rather long in duration, and the layer of lubricating mucus has been disturbed, and its reproduction prevented by irritation and congestion of the parts, due to prolonged pressure; when, too, the presenting head, instead of slipping along, sticks to the vaginal wall and pushes a wave of membrane before it; and when also the sphinctorial orifice and muscles of the pelvic floor are irritated into spasmodic contraction instead of passively yielding as they ought to do—

under these circumstances we find a combination or succession of artificially produced interferences, which often challenge and defy, even in a so-called "natural labor," all the artificial aids and devices of the obstetrician to prevent rupture of the perineum.

Finally, natural labor in woman is often compared, as I have said, with parturition in the dumb animals, and the inference is drawn that one ought not to need assistance more than the other. Here we cannot fail at once to remark that woman is not a *dumb* animal. Irrelevant, and perhaps trifling, as this remark may at first sight appear, the difference between being dumb and not being dumb, when seriously considered, becomes, as I will next endeavor to show, a distinction of no trifling magnitude. On the contrary, it constitutes a most important element in explaining the subversion and artificial deviation of the reproductive instincts from their natural course. The human race is composed of speaking animals. And as I have thus far so frequently referred to the differences between civilized and uncivilized women, let it here be noted that the growth and development of our civilization largely depend upon language. Words rule the world: "the pen is mightier than the sword." Without words we could, of course, have no laws or legislation, no history, no creeds or religions, no education, no literature, no progressive sciences, for the accrued knowledge of one generation could not be bequeathed to the next. In fact, language constitutes the basis of all civilizations. And while all the functions and instincts of the human body are affected more or less, directly or indirectly, by the influence of language, in none does this influence exert a more directly potent power than upon the reproductive function, especially in the gentler sex. And it needs but little reflection to demonstrate that this influence is quite frequently in an abnormal or unphysiological direction; and by which natural instincts are subverted and restrained, and this alike during maidenhood, pregnancy, labor, and lying-in. In fact, the whole process of reproduction is governed less by natural instinct than by what women are told, persuaded, educated, and instructed to do by the medium of language. It is, perhaps, by *words*, either heard or read in the suggestive dramas, poems, and fictions of current literature that emotions are kindled which bring—often enough prematurely—the first congestive blush to the ovarian



and generative organs of the young girl—and this, long before such ideas would have arisen spontaneously. It is *words* that have taught her what she knows or what she conceives to be right and natural with relation to the time, manner, frequency, etc., of coition after marriage. It is by *words* that she has learned, and perhaps been persuaded to practice, the methods of preventing conception. It is by *words* that she has been taught, and perhaps persuaded to practice or have practised upon her, the methods of inducing abortion. It is by *words* that she is told to do this, that, and the other, or not to do this, that, and the other, during her *pregnancy*. It is by *words* that she is instructed to refrain from this or refrain from that, or persuaded, against her natural inclinations, to do this or that, during her *labor*. It is by *words* that she is instructed or commanded to do, or not do, certain things during her *lying-in after delivery*. It is the *words* of some horror-kindling tale, told by a foolish nurse, that, during labor, shock the nervous system and stop or impede uterine contraction; and it is the encouraging *word* of the physician by which this terror is dispelled and labor resumes its course. In truth, like snowflakes in a winter's air, the whole atmosphere of a civilized woman's life is thick with the uttered follies, fashions, and faiths; the trifling superstitions, theories, and errors; the conflicting instructions and contradictory counsels of good books and bad, of nurses, neighbors, parents, and physicians; and these all come to her, influence her conduct, and determine the management of every stage in each reproductive act, simply from the circumstance that she is *not a dumb animal*. Let it even be noted that the advice of one physician differs from that of another; the obstetrical practice of one section or country is different from that of another; and the recognized, orthodox management of labor hardly remains the same for a single decade. All these changes are fostered, propagated, and made possible chiefly or only through the medium of language. Thus, while the functions of the reproductive system in civilized woman are swayed to and fro by every wind of doctrine, conveyed to her on the vehicle of words, the silent natural instincts, which ought to be her guides, and which are deeply ingrained into her reproductive constitution by prehistoric ages of ancestral transmission, are well-nigh subjugated and annulled by the instruction and education that comes from her

being a speaking animal; and the much sought phenomenon of an ideal natural labor, in these modern days, lies, like the solid earth, concealed by snow, buried beneath the accumulated drift of artificial customs, contradictory counsels, and ephemeral theories. On the contrary, language cannot vary, and words are impotent to exercise even the slightest change in reproduction and parturition among the dumb-beasts; hence, I think, how futile and useless is the argument that parturition in the one should need no more assistance than in the other.

Furthermore, apart from the *direct* effect of verbal utterances heard or read by the woman herself, language acts upon her *indirectly* through the instrumentality of education received by others. Even the orthodox practice of scientific obstetrics—often enough one thing this year, and another next—grows out of the statements of text-books, the utterances of lecturers, the education of students by preceptors, the instruction of nurses and midwives, the dispersion of ideas by journals, the discussions of organized societies—these, and, not impossibly, the words of an annual address, may exert an influence tending to modify the process of reproduction in women that are yet unborn. In fact, counting both the direct and indirect effects of language, it would seem that the reproductive system has been peculiarly victimized, if I may so express it. So far from being permitted to follow and obey the instincts naturally designed to govern it, the reproductive function—of which the act of generation constitutes a part—is in a great degree controlled or directed by the canons of churches, by social customs, and by legal enactments. Witness, for example, the rite of circumcision and other religious mutilations of the genitals; the ceremonies of marriage; the laws with regard to sexual intercourse, adultery, polygamy, monogamy, etc., to say nothing of those unnatural uses and vices of the sexual system which arise, not so much from instinct as from the “*evil communications*” that “corrupt good manners.” In all ages, these laws, customs, and vices have constituted a part of the history of *speaking* peoples. So is it with relation to the management of pregnancy, labor, and the puerperal state, and so has it been in all ages from the remotest bounds of history until the present day, from the edict of Pharaoh to the Egyptian midwives down to the latest obstetric aphorism emanating from the medical magnates of a Vienna hospital. And thus, again, I repeat:

Do what she will, civilized woman of the present day cannot escape the deleterious agency of fashions, customs, laws, rites, methods, and practices, that are propagated, transmitted, and perpetuated through the instrumentality of language: she is *not* a *dumb* animal.

Gentlemen, time and the limit of your patience warn me that I must bring this discussion to its close. And yet, the story of the differences between civilized woman and the animals, with regard to reproduction, is scarcely half told. Very much more might be said on my side of this question. But I will only add one more statement, viz., the almost total neutralization and annihilation of the *natural influence of season* upon human reproduction. With the animals, especially with wild species, untrammelled by domestication or artificial breeding, the influence of season upon reproduction is sufficiently manifest: and it is fair to infer that prehistoric woman was also influenced in a similar manner, of which we even yet find some remaining evidence in the well-known greater frequency of conception during the spring months, and the consequent more common occurrence of labor during the winter, the months in which delivery most often occurs being December and January.

Now of the factors that, in consequence of season, directly influence reproduction in a state of nature, I suppose the more potent are temperature and diet.

A moment's consideration will show how civilization has diminished the seasonal variation in these two factors. By artificial heat, the temperature of our dwellings is well-nigh as high in winter as in summer; and our improved means of commerce and rapid transit supply our tables with the products of all seasons, and nearly of all climates, during the entire year; at least this is true to a certain extent. With prehistoric woman, in a state of nature, however, things must have been very different. Then winter was cold, summer hot, and the temperature of dwellings followed more nearly that of the external air. So, too, each season supplied its own special kinds of food, and these, it may be presumed, must have indirectly effected certain changes in the blood of the woman during the various stages of the reproductive function, thus modifying the nutritive pabulum supplied to the fetus, and also, after delivery, modifying the milk upon which the child subsisted; and producing also other changes in the blood, probably con-

ducive to safety during delivery and lying-in. In prehistoric times, the food of man during the early spring months probably consisted, for the most part, of animal food of a highly nutritious and easily digestible composition, viz., the eggs of birds or wild fowls; of fish, swarming into the rivers at this season of their inland migration; and possibly of clams, oysters, and other forms of mollusks, now made attainable by the breaking-up of the winter's ice. Now it is exactly these kinds of food which even at the present day are said, and no doubt with at least some truth, to stimulate and fortify the generative functions. They are the foods provided by Nature for the season of human copulation and conception. A little later on, when pregnancy may be supposed to have occurred, we find the provident earth yielding fresh succulent vegetable leaves—leeks, lettuce, garlic, onions, etc., together with the early fruits, such as cherries, and a little later the greenest and sourest of green and yet unripe apples—the very articles of food for which so many women, even at the present day, exhibit a special longing during the early months of pregnancy.

Then follows the summer with its abundance of fruits and vegetables of endless variety, and the easy capture of young birds and animals. And later still, the autumn furnishes a yet more plentiful abundance of more substantial game in the various wild animals and birds which, together with the different grains, seeds, and nuts, on which they themselves fatten, are stored up for winter use by men and women. And in the very depth and middle of this winter comes Nature's period for human parturition. And here it may well be asked, other things being equal, whether this cold season be not a far more favorable one for delivery than any other. Is not the winter air more pure and free from septic germs? Does not an environment of cold air during labor conduce to more secure uterine contraction and safety from post-partal bleeding than the prostrating air of summer? The English wives of the English army and government officers in India are said to be exceedingly liable to post-partal hemorrhage on account of the prostration occasioned by the extreme heat of the climate to which they are unaccustomed. And is not the whole process and suffering of labor more tolerable and less exhausting during winter than summer? Note too, that a cold season, with proper protection of the skin from exposure, is far more

desirable for young infants than the high temperature of summer; and during lactation the constituents of a mother's milk, provided she subsist on foods resembling the winter's diet of prehistoric woman, will certainly be very *different* from that of a civilized woman of the present day, whose *menu* comprises the products of all seasons, not excepting perhaps even tropical fruits. Perhaps it will be said that this ability to obtain all kinds of food at all seasons is conducive to perfect nutrition, and, in a general way, has led to the improvement of the human species. This may be quite true. I will not deny it. All I am striving to suggest is, that the natural relation or adaptation between the seasons and the different stages of human reproduction, which undoubtedly existed in prehistoric times, has in these modern days been neutralized and broken up; in other words, as I have said, the influence of season has been almost annihilated, whether for good or evil, deserves further study, for I have here only handled the subject very superficially. When, however, we recall the long, long wilderness of time, during which our prehistoric mothers were continuously impressed with, and subjected to these seasonal influences, it need not surprise us if there still remain and crop out occasionally—perhaps in the bold relief of atavistic reversion—a very decided echo of these ancestral impressions and their correlative transmitted peculiarities. And to illustrate how the consideration of such matters as these can be of practical use in our studies of natural labor, I will simply mention one item, viz.: If it be natural, proper, desirable, and conducive to the well-being of mother and child for delivery to take place in *mid-winter*, it can scarcely be logical to say the same of delivery when it occurs in *mid-summer*. In our studies of natural labor, therefore—in our comparison of labor in civilized women with that of animals and barbaric women—in fact, in utilizing what I have called “the physiological argument in obstetric studies and practice,” I think it is necessary that the varying influence of season, on the two sides of the comparison, should be taken into consideration. Labor, indeed, ought to be studied, not only anatomically and physiologically, but also climatologically, anthropologically, ethnologically, and sociologically.

Lastly, to crystallize some definite statements out of these somewhat rambling remarks, I think we may conclude:

1st. That among civilized women, especially those occupying the higher planes of the social scale, ideal natural labor and natural reproduction are rare.

2d. The causes of this rarity will be found in the unnatural habits, customs, occupations, etc., of civilized life, and in the subversion of natural instincts, growing out of education, etc., through the medium of language, as previously explained.

3d. Labor, as we find it, not being purely natural, will, unlike labor in the animals, require, and continue to require, artificial aid—and therefore the argument that, in natural labor, assistance is not needed, while intrinsically true, is futile, out of place, and inapplicable in the great majority of our obstetric cases.

We are all aware that a good deal has been written of late years with regard to the decline of the capacity of civilized woman for easy and repeated propagation. It seems that the reproductive organs have in some way undergone a sort of abasement or degeneration. And while such an admission is at once ungallant, distasteful, and humiliating, I do not see how we can escape it. If it be not true, how then shall we account for the small number of children borne by many women, and for the absolute sterility of many others? If it be not true, how shall we explain the ever-growing mounds of gold, and the ever more and more elaborate palaces, built from the professional profits of the gynecological specialists of our cities? If it be not true, why this continuous caravan of pilgrims wending their way to the Mecca of a Woman's Hospital, devoutly requesting that they may be spayed—begging that the changes natural only to the decline of life may be produced in the prime and bloom of womanhood; and that the joys, pleasures, and blessings of maternity may be at one blow permanently abolished and forever rendered impossible? Are these the evidences of a normal and undegenerated condition of the reproductive organs, organs the exercise of whose natural function is normally prompted by impulses so imperious, in order to insure perpetuation of the species, that it is second only to the first great law of self-preservation which secures the life of the individual? No, I think we cannot escape the admission that civilized woman *has* undergone some degeneration as regards her capacity for propagation. And, if it be asked, Why this has occurred, I think the answer is simply this, viz.: that the varied and combined in-



fluences of a highly developed civilization have, in one way or another, caused the reproductive organs to offend against Nature's holy laws. These organs have left undone the things that they ought to have done, and they have done the things that they ought not to have done, and, consequently, there is no health in them.

## ELECTRICITY IN THE TREATMENT OF FIBROIDS OF THE UTERUS.

---

BY

MARIE B. WERNER, M.D.,

Philadelphia, Pa.

---

THE use of electricity in the treatment of fibroids has, until within later years, been more or less in the hands of charlatans, their accidental good results induced many inquiring and scientific minds to investigate its therapeutical value, and endeavor to place it before the profession as an agent whose known quantities produce definite results. While this latter still presents many sides for improvements, all will agree that a steady advance has been made in this study.

About 1870, Dr. Cutter began to use the galvanic current for uterine fibroids. The patient was placed under the influence of an anesthetic, and the electrodes were introduced through the abdomen, deeply into the growth (three to four inches), but not allowed to approach each other. The application lasted from three to fifteen minutes, the operator being guided by the systemic symptoms. The intervals were usually from one week to a fortnight, but it has been repeated every day for one week. In the February number of the *AMERICAN JOURNAL OF OBSTETRICS* for 1887, Dr. Cutter has given a statistical report of fifty cases; eleven cured, three relieved, twenty-five arrested, seven not relieved, and four fatal.

These results may seem encouraging, but the method seems not entirely free from danger, almost the first thought being a possible wounding of the intestines or bladder, and while this might be avoided by careful percussion, the chances for a

sharp attack of peritonitis seems to require courage as an indispensable factor.

In 1878, Dr. Semeleder modified Dr. Cutter's treatment by using *one* puncture through the abdomen, the other being thrust either through the vagina or rectum into the tumor. The treatments lasted five minutes, and were repeated from every seven to fifteen days. There were reported at that time fifty cases, thirty-four of these were ameliorated; in a certain number the tumor disappeared completely. In sixteen progress was not arrested, while four cases proved fatal from peritonitis.

In 1879, Drs. Martin and Chéron reported four cases in which they had used the continuous current. One pole on the neck of the uterus, the other placed *upon* the abdominal wall. They claimed that an uninterrupted continuous current rapidly diminished the size of a fibroid tumor, but would not make it disappear entirely in less than two and a half years. They also noted that the hemorrhages were much diminished.

In 1881, M. Gallard, with his pupil, Dr. Pégoud, studied the action of the continuous current on fibroid uteri, using an instrument resembling a sound with an olive-shaped tip of platinum. This was introduced, if possible, into the cervical canal; otherwise it was simply placed upon the neck, the tip being protected by a sponge. The other pole was connected with copper plates, covered with chamois skin dipped into a saline solution, these were placed upon the abdomen.

Their observations differed from all the previous ones, in that the hemorrhages were not arrested or diminished, that the menstrual period always appeared a few days too soon; the other results were also negative. This was discussed by Dr. Onimus, who thought it due to the use of too many (elements) cells—fifteen having been used by the operator—and suggested that never more than ten should be used. The error was, however, on the wrong side; when we come to look at Dr. Apostoli's work on this subject, we find he has used as many as seventy-two cells on patients, who had borne them well, and produced good results. The mere mention of cells, however, gives no definite idea of strength, since two cells composed of the same elements vary in strength in direct ratio with the amount of usage and age of exciting liquid, not considering the

effect generally produced on electricity by the state of the weather.

In the report brought before the notice of the profession by Dr. Lucien Carlet in 1884, we find full particulars of Dr. Apostoli's treatment and its results. The important points in its favor are: if followed carefully there is little or no danger of shock or peritonitis, and the patient is always more or less benefited. His careful observations and studies have done much to simplify its use, as well as furnish us with careful directions regarding the length of treatment, strength of current, and application of the poles. The advantages are, that it can be done without an anesthetic, in the office, is not apt to produce shock, and the danger of the wound made is reduced to a minimum. The needle is used exclusively through the vaginal portion of the tumor.

A little more than two years ago, I had the pleasure of seeing Dr. Apostoli at his clinic, his work was conscientiously done, and the patients, without exception, expressed themselves much improved by the treatment.

The active electrodes used were of two kinds, usually combined in one instrument, a long, moderately thick probe, finished on one end like a uterine sound; the other straight, with its extremity shaped like a spear with cutting edges. The one end would be sheathed in the handle while the other was being used, or vice versa. This was either of platinum or gold, the two metals least affected by the current. A rubber or glass tube was used as an insulator.

The passive electrode consisted of a pad of clay to cover the abdomen, the current connected with a copper or leaden plate was placed on the pad. This made resistance stronger, and distributed the current more evenly.

The internal electrode was usually negative, unless hemorrhage was a troublesome symptom, when the positive became the active electrode; this, being the acid pole, produces a caustic effect, and at the same time a contraction and condensation of the tumor. The sound is used more often than the spear; the latter is used in two particular instances with advantage.

1st. When a fibroid is within easy reach through the vagina.

2d. In a large intramural fibroid, when the instrument is

passed along the uterine canal and plunged a short distance into the fibrous tissue.

It is needless to say, in our enlightened age, that complete and careful antisepsis of both vagina and instruments is of absolute importance. The instruments are made antiseptic by heat (alcohol lamp), and the vagina cleansed with an antiseptic solution. A milliampèremeter is also an indispensable aid to the careful physician.

For nearly two years I have had an opportunity to watch six cases, for a space of time sufficient to give an account which may prove interesting.

CASE I.—Mrs. K. W., white, æt. 38, four children, two miscarriages; seen 1st of March, 1886. History: Prolonged, profuse, and painful menstruation, steadily increasing for the last six years, together with a feeling of weight and dragging pain in the lower part of the abdomen, also an inability to sit down without pain. Examination revealed an enlarged and irregularly nodulated uterus, occupying almost the entire pelvic cavity. Uterine cavity, four and a half inches. To the right of the uterus, a small flattened body was felt, which could be separated in its lower half from the uterine body. There was no nausea or exaggerated pain on pressure. Faradic electricity was used (negative pole in the uterus, positive on the abdomen) thrice weekly for four weeks, after which the galvanic current was used exclusively. All the treatments were intrauterine, with two exceptions, when the puncture was used. The uterus began to diminish slowly but steadily in bulk, after the first six weeks, until, in the early part of August, it measured three inches. The body smooth, almost normal to touch; the flattened mass on the right gradually became more rounded, and was now about the size of an English walnut, separate from the uterus, pressure giving some pain and nausea. About this time treatment was suspended. In November, nearly three months later, patient presented herself at my office. Uterus retroflexed and turned to the left; cavity, two and three-quarter inches; right and posterior half of pelvis occupied by a painless cystic tumor, about as large as a medium-sized orange. An operation was advised. March, 1887, I made an abdominal section, removed a parovarian cyst. *The uterus was seen to be perfectly normal in size and appearance.*

CASE II.—Mrs. J., colored, æt. 26, no children, no miscarriage, was seen March, 1886. History: painful, irregular, but scanty menstruation. Examination: two fibroids in the posterior wall of the uterus, each about the size of a walnut, nearest its peritoneal side. The one nearest the left side of easy access for the puncture. Three treatments weekly, continued current, intrauterine alternating with puncture. A marked general and

local improvement was seen and felt after five weeks. Unfortunately an attack of rheumatism, accompanied with acute metritis, suspended treatment. After recovery, an examination revealed that the fibroids, owing to the extra blood supply, had increased in size; fearing the effect of a puncture, I contented myself, if no tenderness, with intrauterine electricity, or, if the reverse, in using an anterior and posterior pad. Recurrent rheumatic attacks and congestions preventing any improvement, but rather favoring the growth of the tumors, Battey's operation was advised. This I finally did, and it proved to be a fibroid uterus, with a left pyo-salpinx, probably of gonorrhoeal origin (could find no tubercular history), thus accounting for the repeated attacks of rheumatism.

The question which, however, presented itself to me was, did the repeated action with electrodes upon the uterus promote the development of the pyo-salpinx?

CASE III.—Mrs. S., white, æt. 41, no children, no miscarriage. Multiple fibroid filling half the pelvic cavity. Uterine cavity, three and one-quarter inches. Menstruation regular, but profuse and painful. Galvanic electricity thrice weekly, intrauterine; a marked improvement in the space of four months. Uterine cavity, two and three-quarter inches, and general health vastly improved. Saw her two months after treatment had been suspended, her condition was still the same.

CASE IV.—Mrs. C., white, æt. 28, no children, no miscarriage. A small fibroid in the posterior upper half of uterus; cavity, three and one-half inches; profuse and painful menstruation. The tumor being out of direct line of puncture, the sound was used exclusively. Galvanic electricity twice weekly. General improvement marked after five months' treatment, less pain and flow at menstrual periods. Patient was again seen after nine months. Uterus normal to touch and in size; no sign of the fibroid. The dragging, uncomfortable feeling complained of due to a cystic tumor in right broad ligament; no nausea, no marked pain on pressure.

CASE V.—Mrs. D., white, æt. 46, no children, no miscarriage. Intramural fibroid extending two fingers' breadth above the umbilicus; cavity, four and a half inches; could not outline ovaries; menstrual flow profuse, lasting ten days. Treatment, galvanic puncture alternating with intrauterine, twice weekly. First five weeks noticed an increase but softening of the growth, then a gradual diminution during the next four months until it became two-thirds of the original size. About this time, an attack of rheumatism made it necessary to suspend treatment; during this the patient noticed considerable pain in the growth, and a notable increase in size. She was seen at irregular intervals after this, and the size of the tumor was in direct ratio to the rheumatic attacks, which were kept up by a damp house.

CASE VI.—Mrs. G., white, æt. 42, one child, one miscarriage; never pregnant after nineteenth year. Menstruation painless but profuse, lasting one week. Two and a half years ago noticed an enlargement of the abdomen, and at the same time had a profuse hemorrhage compelling her to go to bed. Different physicians were consulted without much relief, the hemorrhages recurring on the slightest provocation. Finally she came to Dr. Calista P. Luther who, after trying various hemostatics with little avail, brought her to my office, March, 1886. General appearance weak, anemic, and emaciated.

The tumor pressed against the lower border of the ribs, interfering with respiration and comfortable movement. Waist measure, thirty-nine and a half inches; girth around largest part of abdomen, forty-six inches. Galvanic puncture twice weekly. The tumor became softer but, if anything, larger during the first six weeks; after this time a very gradual diminution was noticed. In May, patient went to the country, and there fell down an embankment. This fall was followed by a severe hemorrhage, the first since the treatment began. After her return, treatments were irregularly given, owing to an attack of malaria and want of time. Nov. 1st, the tumor on a level with the umbilicus; waist measure, nine inches less than when first seen. Treatment more or less suspended during cold weather. March, 1887, another profuse hemorrhage; sound passed six inches; three treatments with positive pole in the uterus checked the flow absolutely. A third hemorrhage arrested in May by same treatment. General ascites (some albumin in urine), double systolic heart murmur, necessitated medical treatment at home. Uterus again three fingers above umbilicus. During June resumed treatments regularly until July, after which she went to the country. Oct. 1st began treatment again. Present state, slight watery discharge. Uterus, two and one-half fingers above the umbilicus; general health fair. Waist measures twenty-eight and a half inches, a difference of eleven inches; girth over largest part of tumor thirty-four inches, making twelve inches difference.

I have not stated the number of milliamperes used, because for some time I had some difficulty in getting an instrument that would register all a patient could take. It has only been within recent date that I have been able to procure one which, so far, has given me entire satisfaction; it registers from one to one thousand milliamperes. I have used a current as strong as one hundred to one hundred and fifty milliamperes, but have at times not been able to go beyond forty milliamperes. Dr. Apostoli in his last publication, 1887, speaks of using a current as strong as two hundred and fifty milliamperes with perfect safety.

A brief resumé of these cases will not be out of order here:



Cases I., III., and IV. can, without hesitation, be regarded as cured by the treatment, Case I. having furnished ocular proof.

Cases V. and VI. have been decidedly benefited, both locally and generally.

Case II. has not been benefited, the electricity having served at the best only as an anesthetic. The benefit received from the early stages of the treatment was subsequently lost.

Considering these results, one certainly feels justified in the application of this treatment before resorting to Battey's operation or the still more serious one of hysterectomy; and though the percentage of recoveries from these operations is increasing yearly with the advance in surgical skill and knowledge, they will never be entirely robbed of their horrors to the anemic, long-suffering, care-worn woman who is compelled to attend to her household duties, and perhaps earn her living, when strength is often exhausted by the great loss of blood.

Electricity in such cases seems to increase assimilation; after a short time the lips again show some color, the eyes lose their care-worn expression, and the patient feels a renewed grasp on life. The patient rather gains in strength by the trial of electricity, and, if an operation is still necessary after a reasonable time, she can look forward to a more rapid recovery, while she takes the chances of a cure or, at least, some improvement.

There is every reason to believe that this method may at least rank between the former, so to speak, passive treatment of ergot, etc., and abdominal section, and allow time and its results to raise it, if possible, to the equal of operative interference.

A RARE CASE OF DYSTOCIA CAUSED BY TUMORS OF THE  
FETAL ARM, FOREARM, ETC.

BY

MALCOLM McLEAN, M.D.,  
New York.

THE report of this very singular case was made at the meeting of the Obstetrical Society of New York, December 6th, 1887, and published in the Transactions of that society, AMER. JOURNAL OF OBSTETRICS, January, 1888. For completeness' sake it is here reproduced.

Primipara, 22 years, family history good, had been five and one-half hours in labor with a midwife in attendance.

The head being born, and labor becoming unusually delayed at this point, Dr. G. H. Cocks was called. The child was dead on his arrival. Without much difficulty the right arm of the child was delivered, but further progress seemed to be obstructed by locking of the other arm behind the pubis. During an interval between efforts at extracting the left arm, a severe pain came on and the *breech* of the child was forced down by spontaneous evolution. Then the *left arm* was lastly delivered.

It was found that the delayed arm was immensely enlarged by what appears to be a hematoma, extending from the left acromial region to the elbow, the arm measuring thirteen and one-half inches in circumference. The tumor is fluid or semi-fluid, and has ecchymotic discoloration. The forearm has on its lower third a distinct subcutaneous, fleshy tumor, nodulated like some forms of sarcomata. There seem to be similar deposits on other parts of the arm. Dystocia from such a deformity is exceedingly rare, and a microscopical examination will be made to determine the original disease. There is evidence of some deep lacerations of the neighborhood of the outer end of the clavicle (subcutaneous), as though caused by efforts at delivery.

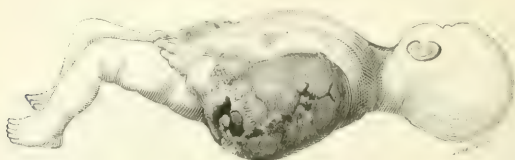
The specimen was presented to the laboratory of the College of Physicians and Surgeons of New York, and the following report has been made by Dr. T. M. Prudden.

The abrasions seen in the photographs on the outer aspect of the arm were the results of post-mortem changes.

"On the front of the left forearm is an ovoidal tumor-like pro-

trusion four centimeters long, three centimeters wide, and about two and one-half thick. The skin over this is thickened and rough, and presents several small transparent blebs.

At the elbow of the same side is a similar growth, but about one-quarter as large.



Fetal Tumor, causing Dystocia.  
(Lymphangiomata of arm, forearm, and chest.)

Reaching from the shoulder to the elbow and situated externally and posteriorly on the arm is an ovoidal tumor about eight centimetres in diameter.

The skin covering this is darkly red in color, and the mass is soft and fluctuating.

The skin over the left side is pulled out so that the chest on this side appears swollen. The shoulder and elbow joint are normal.

The scapula is pulled completely away from its attachments

sideways, and its natural situation is occupied by a large blood-clot.

The parts about the neck on the left side are lacerated ; the jugular and upper end of the thoracic duct torn away from their attachments with the larger vessels.

The thoracic viscera are normal.

The abdominal viscera in general are normal, except that the pelvis of the left kidney is considerably dilated. The mesenteric and thoracic lymph glands are enlarged and congested.

The thoracic duct is normal in size and structure, but its severance from the vein above makes it impossible to determine whether its opening was in a natural condition before the injury to the neck.

The large tumor on the arm contains a large central cavity filled with a loose blood-clot and bloody serum. The blood-clot is in part old and decolorized, in part fresh. The walls of this cavity, formed of the skin and subcutaneous tissue, are filled with numerous larger and smaller thin-walled cavities containing clear and bloody serum.

The thickening of the left chest wall is due to the presence here of numerous thin-walled cavities similar to those in the large tumor of the arm.

The smaller tumors on the forearm are formed of a congeries of larger and smaller cysts, some of them with thin, others with considerably thickened connective-tissue walls, and containing clear yellow serous fluid.

The cyst-like cavities within the larger and smaller tumors, and in the thickened chest walls appear to be dilated lymph spaces and vessels.

The large central cavity in the tumor of the arm appears to be of similar character ; but into this blood has been discharged apparently both before and after the injury during delivery.

The anatomical diagnosis is accordingly lymphangiomata of the left arm, forearm, and chest wall, with hemorrhage from injuries about the neck and scapula."

T. M. PRUDEN.

## CORRESPONDENCE.

---

TO THE EDITOR OF AMERICAN JOURNAL OF OBSTETRICS.

---

SIR:—At a meeting of the New York Obstetrical Society, Dec. 20th, published in the February number of your JOURNAL, Dr. Hunter said “he had tested” Dr. Jones’ needle-holder, “and found it did not hold the needle very firmly; he showed it rather as a curiosity” on account of “its peculiar and ingenious mechanism.”

There can be only one of two reasons for the needle-holder “not holding very firmly:”

1st. A possibility of not being well tempered.

2d. Not adjusted for the size needle used at the time of testing.

When the needle-holder is properly adjusted to the size of needle used, large or small, straight or curved, *it is an utter impossibility for the needle to turn or slip.* This positive assertion is based on a series of experiments far beyond the grip necessary to enable the needle to penetrate any normal or diseased tissue.

The grip is produced by the action of two levers and a wedge. A little study of the instrument will convince any one that the above facts are true.

GEO. E. JONES.

CINCINNATI, Feb. 20th, 1888.

---

## NOTE ON EXTRAUTERINE PREGNANCY.

---

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

---

SIR:—The last communication which I have seen on cases of extrauterine pregnancy is one in the AMERICAN JOURNAL OF OBSTETRICS for December, 1887, by Dr. Andrew F. Currier, of New York. He says: “The theory of Lawson Tait that extrauterine pregnancies are primarily tubal, and not diagnosable

until the rupture of the tube has occurred, is surrounded with difficulty as a theory, and there are too many recorded exceptions to make it a law." Here two things are mixed up: the first is that all extrauterine pregnancies are primarily tubal; and the second, that they are not diagnosable until rupture of the tube has occurred, and I specifically point this out because the two things are not part and parcel of the same at all, and should not have been jumbled together as Dr. Currier has mixed them.

To deal with the second first, Dr. Currier misrepresents me entirely. The actual words which I used in the page of the *British Medical Journal* from which he quotes are: "Again, he (Mr. Lawson Tait) did not believe that the diagnosis of extrauterine pregnancy before rupture, even if opportunities were given to any large extent for examination, could be made with anything like certainty." This is altogether different from saying that they are not diagnosable, and it is only pertinent to my previous experience that I never have been called in to any case (and I believed my experience to be the largest put on record) in which rupture had not already taken place. Therefore I believed, and believe still, that the opportunities of recognizing this displacement before the period of rupture must be extremely rare, as I have never seen one. Dr. Howard Kelly was the only man I have ever heard say he had made such a diagnosis, and proved it by operation.

The first part of Dr. Currier's statement, "that my theory that all extrauterine pregnancies are primarily tubal is surrounded with difficulty as a theory, and there are too many recorded exceptions to make it a law," is a matter of greater interest. On this point Dr. Currier's representation of what I have said is absolutely correct, but, unfortunately, he does not bring forward any of the exceptions which he says are recorded. I can confidently say that I have never yet examined a case of extrauterine pregnancy in which it was possible to determine the point of rupture in which the evidence was not absolutely conclusive that the tube was the primary seat of the displacement. To proceed further, I say that the rupture takes place in one of two directions, either into the peritoneum or into the cavity of the broad ligament; so far I have failed to find any examples which cannot be brought within these two categories, and Dr. Currier's own instance is an illustration in point, if one can accept a record which is so carelessly given that the position of the child is twice indicated, the two sets of conditions being utterly irreconcilable. He tells us, on page 1,237 of *AMERICAN JOURNAL OF*



OBSTETRICS, that in this instance there was no record of the passage of decidual membrane, no evidence of tubal rupture, and in his opinion it was an abdominal pregnancy from the beginning. He tells us that the operator, after passing his hand into the abdominal cavity, was not a little surprised to withdraw the hand and arm of a fetus, and then on page 1,236 he informs us that *the fetus was well nourished, nearly filled the cyst, and had probably reached the fifth month of its development.* On going back to page 1,235, we find that the cyst was composed of the right broad ligament, tube, and probably the ovary, though no trace of the original structures could be found, and it is afterwards made clear to those who can understand the anatomy of these things, that it was an example of the old-fashioned "grossesse extra-uterine sous-peritoneal" of Deylimeris, what we now call an extra-uterine pregnancy of the broad ligament.

The facts put on record by Dr. Currier, that the tube on the right side was dissected out entirely, showed no evidence of rupture at any point, and was only of sufficient calibre to permit the passing of a fine probe, are not in the least degree inconsistent with the original seat of the pregnancy at an early date in the tube, its rupture, passage of the whole ovum into the cavity of the broad ligament, and subsequent complete healing of the tube. Such a thing is possible enough, but let us have a clue as to any reasonable suppositions which can be made (none has yet been offered) of any method of development of a pregnancy in the broad ligament other than that by rupture it passes from the cavity of the Fallopian tube. No possible explanation can be conceived other than this, and the fact that the tubes in nearly all such pregnancies have been found spread over the wall of the cyst and forming part of it, proves completely the process by which the complication is arrived at. The exceptional instance of the tube, having closed again, only proves the rule, and establishes the theory instead of destroying it.

The opinion expressed by Dr. Currier that it was an abdominal pregnancy showed an absence of information on the subject which is much to be regretted, for we are all desirous now to limit the term abdominal pregnancy to the cases, so far I know of only one, in which the fetal development has gone on towards the viable period within the cavity of the peritoneum. This is the case of Jessop, and even that is capable of another explanation, for the presence of the fetus in the abdomen may have been due to a secondary rupture of the sac.

Concerning the treatment of these cases, something is said by

Dr. Currier which is commendable. He points out the tendency of the electrolytic treatment in creating suppuration, septicemia, and its various contingencies. He, however, credits me with a view which I entirely repudiate. He says I advise delay, if a tubal pregnancy has been discovered, until the cyst ruptures, and then an immediate operation. I advise nothing of the sort. If there was any reasonable supposition that there was a tubal pregnancy which had not yet ruptured, I should recommend immediate operation.

Then, finally, Dr. Currier does not deal with the great argument against the electrolytic treatment of these cases, which is, that even if we succeed thereby in killing the fetus, the fetus is not the element of danger, it is the placenta, and now it is known beyond all doubt, what I pointed out years ago as a likelihood, though I was not in a position to prove it, that the placenta will go on developing enormously after the fetus has died from natural causes. This has now been definitely proved by Berry Hart, and has been recently confirmed by Knowsley Thornton.

BIRMINGHAM.

LAWSON TAIT.

---

#### NOTES ON UTERINE FLEXIONS AND VERSIONS.

---

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

---

I READ with much interest Dr. Mary Putnam Jacobi's "Notes on Uterine Versions and Flexions," that appeared in the March number of the JOURNAL. There are some points in connection with the paper that were not clear to the writer, and he finds on inquiry among his friends that they also failed to comprehend. In order to determine some facts regarding the motion of the uterus, the author says: "If a lever be placed on the cervix uteri, and allowed to write on a cylinder simultaneously with a second lever connected with a pneumograph, the duration of the uterine curve will be found to be about two and a half times as long as that of the thoracic curve . . . . Where the uterus is retroverted, its curve is shortened as well as markedly diminished in amplitude. The uterus is no longer drawn upward and forward by the *suction force of the abdominal walls*,<sup>1</sup> but remains exposed exclusively to the influence of the diaphragm."

The writer was not aware that the abdominal walls exerted any suction force, but has always considered them entirely passive during inspiration.

<sup>1</sup> Italics are the writer's.

Dr. Jacobi also speaks of the "aspirating force of the upward movement of the diaphragm." Is not this aspirating force entirely insignificant compared to other factors concerned in the upward movement of the uterus? During inspiration the diaphragm and other inspiratory muscles increase the size of the thorax and tend to diminish that of the abdominal cavity, increasing the intra-abdominal pressure, and crowding together the pelvic viscera. Expiration results from the weight and elasticity of the thoracic walls, and the elasticity of the displaced abdominal contents: the pelvic organs have been displaced, and when the force that brings this about is removed, they return to their normal condition. It seems to the writer that from these facts the term aspirating is misleading.

Some of the tracings reveal a remarkable fact. In Figure I., the time occupied by the excursion of the uterus corresponds to "two and a half respiratory curves taken simultaneously." In Figure 3 "the uterine curve is lower, but much more prolonged, occupying the time of five respirations."

The curves representing these movements of the uterus are unbroken, and this tracing would seem to warrant the deduction that one movement of the uterus took place during two and a half respirations in the first case, and five in the second! Not only would this unbroken curve indicate that this movement of the uterus is unaided by the respiratory action, but that in some part of its course it took place in opposition to it.

When the vagina is opened, while the patient is in Sims' position, the uterus may be seen to rise and fall synchronously with the respiratory acts, and we cannot understand how such curves as portrayed by Dr. Jacobi could be obtained.

A. H. BUCKMASTER.

163 CLINTON STREET, BROOKLYN.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

*Stated Meeting, February 7th, 1888.*

*The President, DR. H. T. HANKS, in the Chair.*

### TRACHELORRHAPHY SCISSORS.

DR. BOLDT presented the instrument with the following description:

"The scissors have been used by me over five years, and a very large number of trachelorrhaphies have been done with



them. A few of my acquaintances who have tried them are equally well satisfied; seldom will the operator feel the need of a pair of scissors with a different curve.

The advantages are: 1st. Simplicity, only one instrument being required: 2d. The readiness and rapidity with which the densest cicatricial tissue can be cut, the points being sharp and all cutting being done with the points; this is especially essential in cutting the angles of a torn cervix.

3d. The exactness with which the cutting is done.

4th. Cheapness of the instrument, costing only \$3.00 or \$3.50.

I do not show the scissors because of the necessity of another surgical instrument, for the market is overcrowded already with different models; but I am induced to call attention to them because I feel that my claims are justified by my experience with them. The blades are not separated at the point more than from one-quarter to half an inch, according to the situation of the tissue to be removed, the points are then thrust into the cervical tissue, and the cutting is done with rapid, short strokes of the blades."

DR. GRANDIN inquired if the scissors were sufficiently curved to answer in cases where it was not advisable or possible to make much traction on the cervix.

DR. BOLDT replied in the affirmative, and stated that in his experience the instrument would work efficiently in the vast majority of cases.

THE PRESIDENT believed that the scissors could be advantageously modified by making the handles stronger. He had found

that scissors with but little spring to the handles were to be preferred. The pair which he was in the habit of using were still more pointed than those exhibited.

#### SELF-RETAINING PERINEAL RETRACTOR.

DR. COE presented a self-retaining speculum devised by Dr. George Jones, of Cincinnati. Both Dr. Hunter and himself had recently used it with advantage. It was especially useful with the patient in the dorsal position. In action it was similar to Simon's blade. The instrument had been described and figured in the JOURNAL OF OBSTETRICS for May, 1887.

DR. BOLDT commended the speculum for use in the lithotomy position, since it enabled the operator to dispense with the assistant.

THE PRESIDENT thought that the peculiar curve of the blade was a positive advantage and stated that, in performing trachelorrhaphy, he had found the Simon blade, used in the lateral position, superior to the Sims.

#### AMPUTATION OF THE CERVIX FOR CARCINOMA—CONSECUTIVE MISCARRIAGE.

DR. LEE reported the following case from his service at the Woman's Hospital:

Mrs. C., age 31, six children. Admitted to his service on December 27th, 1887. Ill for the preceding four weeks. Her symptoms were: Hemorrhages, intermenstrual discharges, "bearing-down pains."

She had last menstruated October 20th to 30th; examination revealed carcinoma of cervix uteri, bleeding easily and of small area; it grew rapidly. On January 5th, assisted by Dr. Hanks and staff, he had amputated the cervix and had cut out the diseased mass as far as the internal os. Silver wire was used to approximate the edges of wound. Drainage tube was used, with iodoform gauze dressing. From 5th to 7th there was pain and restlessness, the pain at times being severe. On the night of the 7th, flowing appeared at intervals, and pains increased. During the night a four months' fetus was delivered. Some stitches were removed in order to deliver the placenta.

During these two days the pulse did not rise above 125 to the minute or the temperature above 100.5°. Their average was lower. From 8th to 29th, the date of her discharge from the hospital, there was a daily improvement in her condition. On the 19th, the remaining sutures were removed.

THE PRESIDENT stated that in this instance, even as in ten per cent of all cases of epithelioma complicating pregnancy, the existence of the latter condition was not suspected. This was not surprising when we remembered that the disease caused enlargement of the uterus as also hemorrhages, and that therefore pregnancy was not apt to be thought of. In the reported case, cachexia was marked, and the progress of the disease most rapid.

Owing to the great hyperesthesia, careful bimanual palpation was impossible. However, even if pregnancy had been diagnosed, the operation would have been performed.

RUPTURE OF THE UTERUS AT FIRST CONFINEMENT; SUBSEQUENT PREGNANCY, AND DELIVERY BY VERSION.

DR. McLEAN referred to a case which he had reported one and a half years previously, where the uterus had ruptured during labor and he had successfully delivered *per vias naturales*, although the fetus had nearly entirely escaped into the peritoneal cavity. Two months ago, he had again confined her, and by version. This operation was generally considered a dangerous one, and likely to cause rupture. In his experience, version had proved a safe operation, and he believed that it should be preferred whenever possible to high forceps. In the present instance the operation, although the uterus was diseased, had not been followed by ill effects.

HYSTERORRHAPHY FOR RETROFLEXION WITH FIXATION.

DR. COE reported a case of retroflexion with adhesions, complicated with enlarged and prolapsed ovaries, where he had successfully performed hysterorrhaphy three months previously. He had treated the patient for two years with tampons, without effect. The operation had been a simple one. He had broken up the adhesions, removed the ovaries and tubes, and had stitched the fundus with silk to the abdominal wall. The patient had convalesced well, the uterus was permanently anteverted, and the chief symptom, constant and severe backache, had disappeared. He believed that this operation was justifiable after other methods had been tested and had failed. Klotz, for instance, had recently reported thirteen cases, and in none had there been relapse. Schultze's method of breaking up adhesions might, of course, be tried, but, even if it was successful, the method would fall short of a complete result in that the uterus and appendages were not held in place.

DR. BOLDT referred to a case where a few years ago he had operated for double hydro-salpinx, and had at the same time performed hysterorrhaphy. The right ovary was so adherent that he had not removed it. Two weeks ago he had seen the patient, and had found a tumor, the size of two fists, in the right ovarian region. He had again opened the patient, and had removed a simple ovarian cyst which had developed from the right adherent ovary. He considered this very unusual, and had not been able to find a similar case recorded.

THE PRESIDENT granted that such an occurrence was unusual, although he deemed it perfectly possible.



DR. H. J. BOLDT read a paper entitled

SUPPURATIVE EXFOLIATIVE CYSTITIS.<sup>1</sup>

DR. DUDLEY referred to an instance which he had now under treatment. He had confined the patient six weeks previously, and had delivered her by high forceps. The operation was a very difficult one, and the vagina had been lacerated. The bladder had been neglected by the nurse, and there had resulted cystitis. Every day or so, the patient now passed a large quantity of encrusted phosphates, of which he exhibited a specimen.

DR. MURRAY claimed that there were two chief causes of this form of cystitis. A depraved condition of the patient had much to do with the occurrence, as also traumatism from attempts at forcing the catheter instead of puncturing the bladder. In puerperal cases, he had met with the condition twice after operating maneuvers, probably because the bladder had not been entirely emptied before the operation. He believed that internal medication was of value in this form of cystitis. The administration of benzoic acid would tend to prevent decomposition of the urine.

DR. DUDLEY said that he had ordered this drug for his patient with good effect.

DR. McLEAN claimed that exfoliative cystitis could occur in the absence of pregnancy, and he had seen such an instance. An occasional characteristic symptom was the expulsion of gas from the bladder. Renal complications, he believed, were secondary rather than primary. A grave danger was direct amniotomia, and this was best forestalled by frequent irrigation of the bladder. Contrary to the customary view, he believed in the administration of morphia, and had never witnessed any ill effects. As a preparatory measure to local treatment, the urethra should be well dilated. He was in the habit of washing out the bladder with the fountain syringe through a modification of the Skene double catheter. This instrument was shorter than Skene's. The inflow was at the end, and the exit was larger. With this instrument he just entered the bladder, and thus there was no risk of traumatism, and no pain was caused.

DR. BOLDT claimed that the discussion had not touched upon exfoliative cystitis. All the reported cases had occurred in healthy women, and in none apart from pregnancy or the puerperal state.

DR. McLEAN replied that in his case there could be no doubt about the condition, since the whole of the mucous membrane had been exfoliated. Dr. Skene had seen the case with him, and had verified the diagnosis.

DR. H. C. COE reported the following case:

A CASE OF CRANIOTOMY PRESENTING UNUSUAL DIFFICULTY.

For the details of the history and after-treatment he was indebted to Dr. J. W. Flynn, the attending physician. He quoted from the latter's notes: "The patient, Mrs. N., æt. 34, was twice married. By her first husband she had a still-born child, of which she was delivered after prolonged use of the forceps. Some years later, Dr. Flynn delivered her of a small living child (by

<sup>1</sup> See Original Articles.

high forceps). By her second husband she had a third child (December 24th, 1885), which was born alive. She was in good health and very stout. Dr. Flynn was called to see her on January 21st, at 6 A.M. The membranes had ruptured two or three hours before his arrival, but the pains were slight. On making an examination he found that the os was not dilated. He ordered morphine and chloral hydrate and saw her during the day, when she was easier, no more amniotic fluid having escaped. At 10 P.M. he was again summoned, and found the os well dilated, with the head R. O. A. She complained of severe pain over the bladder and a constant desire to micturate, but she was unable to do so. As no progress was made in two hours, he applied the forceps, assisted by Dr. Manning, and tried to deliver the head, but in vain. After the patient had been fully anesthetized with chloroform, it was discovered that there was marked shortening of the superior conjugate. Dr. Flynn now attempted podalic version, but without success. Drs. Coe and Morrill were sent for at 3 A.M., twenty-four hours having elapsed since the membranes ruptured."

From Dr. Coe's notes: "At 3 A.M., January 22d, I was summoned by Dr. Morrill to see the patient, a stout multipara, who had been in labor since the night of the 21st. Chloroform was administered, and we made a thorough examination. On palpation the uterine tumor appeared to be unusually large. The uterus was in a state of tetanic contraction, the lower segment being greatly elongated, and so thinned that the presenting part could be felt above the symphysis very distinctly. The fetal heart was heard feebly to the left of the median line. On introducing the hand into the vagina the conjugate diameter of the brim was found to be shortened (we estimated it at between three and one-quarter and three and one-half inches), and, moreover, there was a peculiar projection on the posterior aspect of the symphysis that still further encroached upon the pelvic brim. The pubic arch was also quite narrow. The head was large and movable; the waters had entirely escaped. We endeavored to empty the bladder, which was drawn upward to an unusual extent, but could not do so completely, not having a catheter sufficiently long.

"After consultation, as the child was still alive, it was decided to perform podalic version if possible. This Dr. Morrill attempted, but, after bringing down one foot he was unable to draw it through the os, nor could he disengage the opposite one. The uterus was firmly contracted, and it was impossible to push up the head. I made a similar attempt without success. As the pulsation in the cord had entirely ceased, and, moreover, the mother's condition was rather alarming, we decided to perform craniotomy. I perforated at the vertex with a Braun's trephine and crushed the skull with a cranioclast, but extraction with the

latter instrument was impossible. The skull was repeatedly grasped in a favorable position and crushed, but the cranioclast tore away as soon as strong traction was made with it. The cranial bones were then removed piece-meal, and a fruitless attempt was made to extract with the crotchet. I then endeavored to perform version, but could succeed in bringing down nothing but an arm, which was amputated by Dr. Morrill. I next brought down a leg, on which traction was made by a fillet, while I endeavored to push up the remains of the head. The uterus was so firmly contracted that rotation did not occur, and finally the leg was pulled off at the hip-joint. I then endeavored to bring down the other leg, but could not draw it beyond the os internum. I extracted the remaining arm, which was amputated at the shoulder; it was not until then that the foot could be drawn down into the vagina. It was only after a long struggle that rotation and extraction of the trunk were effected by Dr. Flynn. The weight of the fetus was estimated at upwards of nine pounds. The patient had now been under chloroform anesthesia for four or five hours continuously, during four of which time we had worked incessantly, and was very weak. The actual loss of blood had not been excessive, but we feared serious lesions of the soft parts from the instruments and fragments of bone. The placenta was adherent, so that it was necessary to peel it off. The uterus contracted firmly and there was no hemorrhage. An intra-uterine injection of hot bichloride solution was given, an iodoform-suppository (100 grains) was introduced into the cavity, and the patient was put to bed at 8:30 A.M., in fair condition, considering the rough usage that she had received. Towards the close of the operation four drachms of brandy were administered hypodermically, and as soon as she recovered from the anesthetic, she took half an ounce of brandy by the mouth."

From Dr. Flynn's notes: "At 9 A.M., her pulse was 120 and full. During the afternoon her pulse remained the same, and she complained of severe pain in the abdomen. Urinated twice. The following morning the pulse was 148, the temperature 102.5°. She complained of pain in the left groin. In the afternoon the pulse was 164, the thermometer registering 104.5°. An intra-uterine injection was given, when the temperature fell to 101.5°, the pulse being 146. Five hours later, the pulse became weak and irregular, but the temperature was 102.6°; the patient was delirious and complained of intense thirst. At 8 A.M. on the morning of the 24th (forty-eight hours after delivery), she had a convulsive seizure and expired."

Dr. Coe notes: Through the tact of Dr. Flynn, an opportunity was obtained for making a partial examination of the body. He found the abdominal viscera normal, there being no evidences of peritonitis, and succeeded in removing the uterus en-

tire, which I present for inspection. He also made an examination of the bony pelvis from above, and estimated the length of the conjugate at rather less than three and one-half inches, beside confirming the suspicion that there was an abnormal projection on the posterior aspect of the symphysis pubis. The uterus when first removed was large and flabby, the cervix being visibly thinned. The entire endometrium was transformed into a brownish, sloughy mass, having an exceedingly offensive odor; this was most marked in the lower segment, although no marked lesions were found here. The muscular layer was of normal thickness, but appeared to be invaded by the gangrenous process. Tubes and ovaries normal.

*Microscopical Examination.*—Sections through the entire uterine wall showed disintegration of the submucous layer, with invasion of the inner half of the muscular layer, the bundles of fibro-muscular tissue being separated by purulent foci. No evidences of thrombosis in the sinuses.

In my opinion, the patient never rallied after the operation, to which her death was directly due. The rapid septic process was doubtless due to the laceration of the uterus by the instruments, as well as to the necessarily imperfect antiseptic precautions during the manipulations.

In presenting this case before the Society, I desire to invite discussion upon the following points:

1st. Ought Cesarean section to have been performed as soon as version was found to be very difficult or impossible?

2d. Why was extraction impossible after craniotomy and subsequent embryotomy?

3d. How much dependence can we place upon pelvic measurements in deciding what obstetric operation is preferable in a given case?

With regard to the choice of Cesarean section, I have no hesitation in saying that I would certainly perform it under similar conditions, even though the surroundings were as unfavorable as they were in this case. So strongly impressed was I with the unscientific character of the procedure which I have described, when considered in the light of modern surgery, that I would not hesitate to open the abdomen at once if the same emergency were presented. The shock resulting from laparotomy would have been much less than that produced by four hours' manipulation within the uterine cavity. But here arises the difficulty. The woman had been delivered by forceps on three former occasions, and there was no reason to apprehend such unusual difficulty with the present confinement. Until prolonged attempts had been made to extract by forceps and version, it was supposed that delivery *per vias naturales* was still possible. Before this matter had been fully settled, the child had died, and then the mother's safety alone was to be considered. There was no reason

to suppose that craniotomy would not offer the quickest means of delivery; that it did not, may have been due to lack of skill on the part of the operator.

This leads me to consider the second point, the unusual difficulty encountered in extracting the child after embryotomy had been performed. This cannot be attributed to the pelvic contraction alone, as this was not excessive; the failure of the trunk to rotate was doubtless due to the tetanic contraction of the uterus, in consequence of which the fetus was grasped as by a vise. The size of the fetus should also be taken into consideration, since the trunk was extracted only after the expenditure of much force.

Does the degree of pelvic deformity *per se* furnish a positive indication for the major obstetric operations? This case seems to prove the contrary. Here was a woman with a moderate contraction of the pelvis, who had previously borne three children (two living), and yet in delivering the fourth as much difficulty was experienced as would be encountered with a conjugate an inch shorter. The difference is explained in my opinion by reference to Bandl's statement ("Ueber Ruptur der Gebärmutter," S. 78) that "if women have on one, or on several occasions, succeeded in surmounting pelvic deformities, the next confinement will only be safe for mother and child when the fetal head is not too large for the pelvis." In this case, I believe that the narrowing of the pelvic brim was, in one sense, of secondary importance, the large size of the child and the contraction of the uterus being the elements which required to be principally considered in choosing the operation. These same factors would in another similar case lead me to at once advise Cesarean section, without wasting time with the forceps or version—that is, if the child was still living; if it was dead, I would be guided to some extent by the condition of the patient, provided, of course, I was given the choice of operations. In this case, as I said before, I regretted when too late that laparotomy had not been advised at the outset.

A word as regards rupture of the uterus. I am sure that in this case it was imminent. The conditions, as set forth in Bandl's monograph, were all favorable to this accident, and it is rather surprising that the cervical segment did not give way during the operation.

DR. JACOBUS inquired as to the strength of the solution of bichloride of mercury which had been used to wash out the uterus and DR. VON RAMDOHR asked if ergot had been administered.

DR. COE replied that the strength of the solution was 1 to 4,000 and that ergot had not been given.

DR. VON RAMDOHR believed that it was the contraction of the uterus which had interfered with delivery and not pelvic contraction. He questioned if the Cesarean section would have given better results in face of the tetanic contraction of the uterus. He suggested that a full hot bath or venesection might have caused the tetanus to yield.



DR. MURRAY said that he had reported a somewhat similar case where tetanus was present and had interfered with delivery. He had been sent for to perform craniotomy. He had found a stricture of the uterus around the neck of the infant. This had gradually yielded to pressure, and he had been enabled to deliver by version. It was a true instance of hour-glass contraction before delivery of the child. He had seen another case with the late Dr. Budd, where pressure similarly applied to the stricture had enabled them to deliver.

DR. GARRIGUES (*present by invitation*) believed that the main factor causing difficult delivery in this case was disproportion between the child and the pelvis. In his experience the generally contracted pelvis was, in this country, a common cause of dystocia. He was inclined to think that, in the reported case, the pelvis was of this type. He did not think that the Cesarean section would have given a better result than craniotomy in this instance after the attempts which had been made with forceps and version. The good results which the Cesarean section had yielded abroad were obtained from timely resort to the operation. In the generally contracted pelvis of slight degree, if the child were large, he would advocate the Cesarean section.

DR. FLYNN (*present by invitation*) stated that there might have been a generally contracted pelvis, but that, owing to the circumstances under which the autopsy had been performed, he had only been able to measure the conjugate, and to satisfy himself of the presence of an exostosis on the internal surface of the pubic bone.

DR. McLEAN inquired why the forceps was resorted to before version.

DR. FLYNN replied that, since the woman had previously been successfully delivered by the forceps, he had no reason to think that they would not answer again.

DR. McLEAN claimed that version should be given the preference at the superior strait, and he desired particularly to emphasize his belief. The tetanus in the reported instance very likely resulted from the ineffectual efforts which were made to deliver by the forceps.

THE PRESIDENT and DR. BOLDT expressed their preference for version over high forceps, the former stating that where the conjugate was less than three and a half inches and over two and three-quarters he would always resort to version before high forceps.

---

*Stated Meeting, February 21st, 1886.*

*The President, DR. H. T. HANKS, in the Chair.*

#### FIBRINOUS CAST FROM BLADDER.

DR. FREEMAN presented the specimen which had been passed by a patient who had had cystitis for several weeks. Expulsion of the mass had been followed by relief of the symptoms. The patient was not pregnant, but the case was complicated by a fibroid which pressed on the bladder and divided the organ into two compartments.

DR. BOLDT stated that the history suggested an exfoliative



cystitis, but that the expelled mass was solid and did not resemble mucous membrane.

DR. JACOBI did not believe that a microscopic examination would settle the nature of the specimen, since it had been preserved in carbolic acid for so long. He believed it to be a large coagulum of fibrin, resulting from a hemorrhage which the patient had had at some time. If the mass could be separated in layers, it might be diphtheritic, for a deposit of this nature might remain in the bladder for a considerable time. He recalled the experiments of Heubner, which proved that the diphtheritic process might begin in the bladder near a point of constriction and thence spread over the organ without affecting the mucous membrane at all.

DR. FREEMAN stated that the patient had had a hemorrhage from the bladder, and that this was the second portion of the mass expelled, the first having been broken off by traction. It was attached to the anterior portion of the organ just above the urethra.

#### LAPAROTOMY FOR SEPTIC PERITONITIS.

DR. BOLDT reported the following case :

Th. R., æt. 33 years. Primipara. On Monday, February 13th, at 5 P.M., she was rapidly delivered with forceps by an irregular practitioner, one who was prosecuted by the County Medical Society about a year ago for practising without license.

The husband gives the following account of the case : His wife had been in labor about twelve hours under the care of a midwife when said practitioner was called in, who at once put on the forceps and delivered within a few moments ; the patient had always enjoyed excellent health up to the time of her confinement. On Wednesday evening, the doctor (?) prescribed an ointment to use on the perineal tear, saying that the fever and the abdominal pain from which the patient was then suffering would pass away in a short time.

She was subsequently seen by Drs. Von Ramdohr and Neumer, and sent into the hospital Friday evening, the 17th, with the diagnosis of septic peritonitis.

*Status præsens.*—The countenance had the well-marked appearance of a patient suffering from puerperal septicemia. Temp. 102.2° F. in the axilla. Pulse 120. The abdomen presented the physical signs of general peritonitis. An offensive discharge exuded from the genitals. The perineum was torn through the spineter, about half an inch into the rectum.

The vaginal mucous membrane was lacerated in several places, and shreds of the mucosa were hanging loose from the sides. The vagina was filled with large coagula of blood of putrescent odor ; the cervix was torn and gaped widely. The uterus was flabby, its cavity enlarged, but the exploring finger discovered nothing except coagula of blood in its interior. In the cul-de-sac of Douglas, a cup-shaped tear was felt admitting the index finger and resembling a gaping cervical canal. The uterus and vagina

were frequently irrigated with a mild solution of bichloride of mercury, her condition not improving therefrom. On Saturday, February 18th, she was seen by him, and the diagnosis above stated corroborated. About an hour later he operated, only in semi-narcosis, on account of the low condition of the patient. An incision one and one-quarter inches in length was made in the abdomen, and the abdominal cavity was thoroughly washed with hot water, 115° F., until it came out perfectly odorless and clear. The highly congested condition of the intestines diminished visibly under the influence of the hot water. The wound was closed with silver wire sutures. The uterus and vagina were likewise washed out, and afterwards hourly; a pad of iodoform gauze and absorbent cotton was placed on the genitals after each washing. Ice coil applied after operation. Her condition improved markedly. The temperature four hours afterwards was down to 99° F. in the mouth; pulse 120, full and regular; she said that she was free from pain and felt much better; she certainly looked better. At 4 A.M. she changed, and the house physician, Dr. Rosenthal, found her sinking, which continued until 1 P.M. of February 19th, when she died. Vomiting after operation was not present, although large quantities of stimulants ( $\frac{3}{4}$  i. every half-hour) were given per os when the pulse began to fail.

*Autopsy six hours after death.*—The peritonitis not as intense as at the time of operation. Behind the uterus, in Douglas' cul-de-sac, a small opening about the size of a silver dime was found, which communicated with the cup-shaped tear felt in the vagina. The uterus large and flabby; its interior clean. The lower portion of the cervix and vagina were dark—gangrenous in appearance.

The interesting points for consideration are: 1st. How could it be possible for any one to produce *such* injuries as described, with instruments so quickly? I can only explain it in this way: the forceps when first applied probably slipped some, and the blades were then merely separated a little in a careless manner without further examination, pushed up again and closed, catching the folds of the vagina, then the traction was renewed. 2d. Is laparotomy under such circumstances a justifiable operation? Had the perforation behind the uterus been known, certainly the question could have been answered in the negative. I have operated several times when *general* peritonitis existed, but have been unable to save any patients.

DR. JACOBI inquired as to how long the patient had been in labor, and if she might not have been septic before delivery.

DR. BOLDT replied that, as far as he had been able to determine, the labor had lasted twelve hours before the operative interference which resulted in the laceration of the vagina.

DR. JACOBI stated that he could hardly conceive of such an in-

jury occurring in a few moments. He questioned if the patient had not been longer in labor, and if the vagina had not been subjected to prolonged pressure before the forceps had been applied.

DR. BOLDT asked for an expression of opinion as to the advisability of laparotomy in case of septic peritonitis.

THE PRESIDENT did not believe that the time was yet ripe for dogmatism in regard to the advisability of opening the abdomen in the presence of septic peritonitis. In the case reported, the woman had suffered such traumatism that there were other avenues for sepsis, and he questioned, hence, if laparotomy was likely to be effective against the sepsis.

DR. JACOBI believed the question to be whether, where the symptoms were local and laparotomy being performed recovery ensued, we were justified in saying that the same would not have resulted aside from operative interference. He was by no means prepared to accept laparotomy for such cases, because it was not thus always possible to reach the source of the evil. The worst cases of sepsis were those where the source was not quite evident. He believed that, in five years, laparotomy would not be performed so frequently as now, and that sepsis would not be one of the indications. Whilst, theoretically, it seemed an easy matter to wash out the peritoneal cavity, practically it was not always so. He had lately been obliged to open the abdominal cavity in a boy of ten years, suffering from perityphlitic abscess and peritonitis. He had found an extensive suppurative peritonitis, had tried to wash out the cavity, but had failed, owing to the extensive adhesions. He questioned if, in many instances the attempt did not fail for a similar reason.

DR. BOLDT stated that, although in the reported case, laparotomy had not been of service, he would still advocate it as a justifiable measure in case of peritonitis. He referred to two instances of ruptured pyo-salpinx where he had successfully opened the abdomen and washed out the peritoneal cavity.

#### HYSTERO-EPILEPSY—LAPAROTOMY FOR REMOVAL OF THE APPENDAGES—UREMIC COMA—DEATH.

The following case, with specimens, was presented from DR. LEE's service at the Woman's Hospital:

On Feb. 7th, 1888, Miss Jennie E., age 28, U. S., entered the service of Dr. Lee at the Woman's Hospital, giving the following history. She had been ill for six years, first suffering from pain in the precordial region which later left the chest and appeared in the hypogastric and iliac regions, to which regions it confined itself. The pain was not constant, appearing at intervals, and was worse at the menstrual periods. During her illness she has had attacks resembling hystero-epilepsy. Duration of attacks was about one hour. They were accompanied by marked tonic contractions of extensor muscles of body and limbs. The occurrence of the attacks could be foretold by presence of hot and cold flashes, headache, and general nervousness. Seven years ago she had had insolation. Examination of the patient's urine gave no evidence of presence of albumin or casts. Previous to admission the patient had long been under the observation of Dr. Lee who

had diagnosticated chronic ovaritis with salpingitis and advised removal of the uterine appendages to force the menopause as a last resort.

Feb. 9th. Dr. Lee, assisted by Drs. Hanks and Swasey and the house staff, removed the right tube and ovary (the left had been removed about two years ago by Dr. Lee). The operation was not difficult; a few adhesions, which were easily broken, being the only complication met with. The pedicle was transfixed by a double silk ligature and dropped back into the peritoneal cavity. The wound was dressed antiseptically. After operation, the patient was greatly troubled with nausea, vomiting, and restlessness; the temperature gradually increased; the secretion of urine diminished (it could not be re-established by any mode of treatment), until on February 12th, the third day after the operation, complete suppression supervened, and on the 13th, at one A.M., death occurred, the patient having been comatose for about one hour previously.

At the autopsy, both kidneys were found acutely congested and enlarged, the cortex enlarged and pale, the columns of a deep red color. The ureters were normal. There existed general peritonitis.

DR. DUDLEY inquired how long the patient was under ether, and what apparatus was used for anesthetization.

THE PRESIDENT stated that the operation lasted about twenty minutes, and that ether was administered through the Clover apparatus.

DR. DUDLEY said that he had lost a case from a similar cause a year previously. The kidneys had been examined by Dr. Porter, and he had expressed the opinion that the parenchymatous changes present were due to ether. The speaker hence emphasized the necessity of careful examination of the urine, and of proper preparatory treatment, such as a milk diet, in any case where there was the slightest suspicion of kidney disease. During anesthesia, as much air as possible should be allowed the patient. The kidneys were called upon for extra elimination, and, therefore, the likelihood of acute parenchymatous change in the organs. He believed that this, and not shock, was in many instances the cause of death, and one means of prevention was to get the kidneys in as good a condition as possible before operation. He inquired if carbolic acid was used, and, if so, in what strength.

DR. BOLDT asked if it was considered necessary to examine the urine for casts in case it was found free from albumin.

DR. ASPELL (*present by invitation*) replied that, at the Woman's Hospital, it was the rule to examine the urine both chemically and microscopically. Carbolic (1:60) had been used for the instruments, and sublimate (1:7,000) for the sponges.

THE PRESIDENT stated that the patient had rallied well from the operation, and that a possible cause of the nephritis was the fact that the weather was excessively cold, and it was not possible to warm the pavilion efficiently.

DR. BOLDT considered that ether might be responsible for

changes in the kidney. He deemed it significant that in Germany, where chloroform was used, cases similar in result to Dr. Lee's were not recorded.

DR. FREEMAN referred to a case he had operated on about one year previously. The kidneys showed no evidence of disease. He had removed the ovaries and tubes. In ten hours there was almost complete suppression of urine, and in three days death occurred from uremia. No cause could be assigned except the use of ether.

DR. TALBOT had had a similar case. The operation lasted about forty minutes; on the third day, there was slight uremia; on the fourth night, suppression of urine; on the fifth night, death from uremic coma.

DR. MURRAY recalled the fact that it was claimed that irritation of the nervous plexuses about the uterus affected the kidneys, and he queried if such might not be the explanation of the changes in these organs. It was significant that it was after laparotomy for removal of the appendages or operation on the uterus that this suppression and coma had been chiefly met with. These instances differed from cases of Bright's disease in that the coma was not preceded by convulsions.

DR. FOSTER thought that the fact that, in puerperal convulsions, ether acted as favorably as chloroform was an argument against the assumption that ether could affect the kidneys so unfavorably.

DR. A. JACOBI read a paper on

#### THE TREATMENT OF CERTAIN OF THE DISEASES OF THE NEWLY BORN.

In opening the discussion, DR. FRUITNIGHT stated that some twelve years previously he had delivered a breech case with forceps. The child was in a state of apparent death, and after failure of all other means of resuscitation, he had resorted to faradism, placing one pole over the cleido-mastoid and the other over the diaphragm. The latter electrode was placed on the hand of the operator, which was in contact with the body of the child, thus enabling him to judge of the strength of the current. He had continued this for over an hour with the result of saving the child. Such cases argued for the advisability of carrying an induction apparatus in the obstetric bag. In regard to cephalhematoma he had seen a number of instances. One was in his own practice. He had let it alone and, at the expiration of two months, it had been absorbed. In two cases seen in consultation after incisions had been made, death had occurred from uncontrollable hemorrhage.

DR. PARTRIDGE had seen six to eight cases of what the reader had called hematoma of the sterno-cleido-mastoid. He preferred the term circumscribed myositis. Under expectant treatment, they usually disappeared in six to eight weeks after delivery.

DR. MURRAY had seen one case of hematoma of the cleido-mastoid in a case of face presentation, and he thought it curious that, in such presentations, rupture of the muscle did not occur more frequently. Hematoma of the scalp he favored letting alone. In atelectasis of the new-born, he was in the habit of doing what Dr. Jacobi had suggested to him a number of years previously in a case seen in consultation, and this was to make the infant cry. In bronchitis he had often tried the same thing, with the



result of relieving the cough and the respiration. This means, if resorted to early, might prevent the extension of the process to the capillary bronchi.

DR. FOSTER recalled an instance where he had successfully used the faradic current for resuscitation of the infant, as also for checking a post-partum hemorrhage.

DR. JACOBI stated that, in case of bronchitis, where there was much viscid mucous present, it was a good plan to make the child cry for several minutes every hour. In reply to a question by DR. ABBOTT, as to the means he used for this purpose, he mentioned a number, such as flagellation, shaking, placing the child in a warm bath and pouring cold water over the neck. He also favored closing the mouth and nose for a few seconds, the deep gasps following being beneficial.

DR. BOLDT, in connection with the case of post-partum hemorrhage where Dr. Foster had used faradism, stated that he had tested, in one instance, the method recommended in Germany of tamponing the cavity of the uterus with iodoform gauze, and he was inclined to indorse it highly.

DR. MORRILL questioned the utility of such a step and inquired as to amount of gauze it was necessary to use.

DR. JACOBI expressed his belief that the acceptance of such a practice might eventuate in death from antiseptis. The mass of iodoform gauze requisite to tampon a uterus in a state of inertia during profuse post-partum hemorrhage he deemed likely to cause toxic symptoms.

DR. BOLDT replied that one yard of gauze had sufficed in the instance he had referred to.

DR. ABBOTT recalled an instance he had heard of, where the practitioners in desperation tamponed with a night dress, and thus checked the hemorrhage.

DR. MURRAY believed that, in case of post-partum hemorrhage dependent on lack of nerve force, electricity could not be useful, and that it was a waste of precious time to depend on it. Even if contractions were obtained from resort to it, they would be at best only temporary.

DR. JACOBI claimed that, no matter what the exhaustion of the body, electricity would supply force. The lower the vitality, indeed, the more urgent the indication for resort to the current. Even though the contractions resulting were but temporary, this gave the patient a respite from the hemorrhage, and when it recurred electricity could again be used.

DR. MURRAY stated that the cases he had in mind were those where the uterus refused to respond to any stimulant, and that here styptics, compression of the aorta, *et cetera*, were far more likely to be of use than electricity.

---



## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

*Thursday, December 8th, 1887.*

THOMAS M. DRYSDALE, M.D., *in the Chair.*

DR. W. GOODELL read a paper on

### INTRA-LIGAMENTARY CYSTS.<sup>1</sup>

DR. DRYSDALE remarked that the paper of Dr. Goodell covers the ground so thoroughly that he could add but little to what had been said. One important point is the extreme thinness of the cyst-wall often met with in these cases, which, in his experience, had made it almost impossible to get the cyst away without tearing. Another difficulty peculiar to this form of tumor was the risk of wounding the great blood-vessels of the pelvis when the cyst had burrowed under or become incorporated with them.

Dr. Drysdale understood Dr. Goodell to say that he believed that all operators, in removing these tumors, had met with the accident of opening the bladder. He was glad to say that, in an experience of twenty-six years, he had never been so unfortunate as to open that organ.

Dr. Drysdale believed that true papillomata always prove fatal. The faith of some writers, in the occasional curability of these growths, is founded upon the error of mistaking a benign growth, which resembles them, for true malignant papillomata. These innocent masses of papillary granulations, in fact, so closely resemble the malignant that the microscope alone can distinguish one from the other.

DR. J. PRICE has not had experience in the removal of this form of abdominal growth. He is pleased with the free use Dr. Goodell makes of drainage tubes; he, himself, has used three at one time in complicated operations. He is wishing for some form of perfected continuous irrigation applicable to the after-treatment of abdominal section. He has had his greatest experience in removal of pus-tubes and has met with a mixed ovarian and parovarian growth in many of his patients. Mr. Tait had described two varieties of papillomatous cysts, one having virulent characters and the other benign.

DR. B. F. BAER has had some experience with this class of tumors. He has operated on at least four cases so far as he can recall at this moment, but they had not been quite so severe nor the tumors as large as the typical case described by Dr. Goodell, probably because they had been removed earlier.

The first case was one of a double tumor of very rapid growth, sent to him by Dr. Gabel, of York, Pa. The patient had been perfectly well so far as she knew eight months previously, but at that time she suffered from an attack of acute urethritis

<sup>1</sup> See original article in January number.

and vaginitis, followed by a burning pain in both ovarian regions. Soon she found that the abdomen was enlarging, especially on the right side. Seven months after this date, when he first saw the patient, she was much emaciated and the abdomen was greatly distended by an irregular, fluctuating tumor. There was a deep sulcus extending from the lower border of the tumor diagonally upwards. The uterus was soft, high up and drawn to the left. When the abdomen was opened two large tumors were revealed. The left was tapped and removed first, because it was uppermost. It had a short, thick pedicle which was transfixed, ligated, and dropped. The larger tumor was next emptied, and it was now found that it had a deep pelvic attachment. Further examination showed that the tumor was subperitoneal and closely adherent to the uterus, as well as to all the pelvic viscera. Enucleation was begun, and after a laborious effort, during which considerable bleeding occurred, the tumor was separated, leaving a large open wound in the broad ligament. This was transfixed and tied *en masse* as a pedicle, making a very thick stump. Just as he was about to close the abdominal wound the ligature slipped off. Great hemorrhage followed this and it was feared the patient would succumb before it could be checked, but by the rapid application of catch forceps one after another it was controlled until ligatures could be placed. The wound in the broad ligament was finally united by placing ten or twelve interrupted silk sutures. After carefully cleansing the abdominal cavity of all clots, the incision was closed without drainage, and the patient put to bed more dead than alive. It was thought that she could not react from the shock, but she rallied and made an excellent recovery, going home on the twenty-third day in charge of Dr. Gabel. She remains well three years after the operation.

The second case was also a double tumor of rapid growth. One or both of the cysts had burst and probably discharged into the bowel on two occasions before he saw the patient. She presented an appearance of great pallor and emaciation. The abdominal surface was rather symmetrical and fluctuation was very marked. The uterus was drawn high up and it was not freely mobile. When the cyst was exposed, it presented a deeper color than that common to the ordinary ovarian cystoma. The cyst-wall was thin. After tapping, it was found to have a deep pelvic connection. Enucleation was necessary and a thick pedicle was ligated. It was now found that another smaller tumor existed on the left side. This had a peculiar shape, being elongated and deeply seated in the pelvis. It was entirely subperitoneal. The peritoneum extended out from the uterus, spreading over the tumor and approaching the abdominal wall, as is sometimes seen in a fibroid tumor of the uterus which has pushed that membrane upward in its growth. The cyst extended along the line of the colon, and at first he was not sure that it was not that organ greatly distended by gas. He soon determined that it contained fluid and that its general appearance was similar to that just removed. The fluid was evacuated, when the cyst collapsed. He hesitated as to the proper course now, because of the broad base and deep attachment of the tumor and its close adhesion to the sigmoid flexure. He first thought of stitching it to the abdominal incision and draining, but he did not, and was sorry soon

after that he had not carried out his first idea, for his attempt at enucleation of the tumor was attended by so much hemorrhage, although ligatures were applied freely, that he felt compelled to cease his efforts. He had separated at least six inches of the descending colon from the cyst-wall when he found that the latter dipped down so deeply into the pelvic excavation that he concluded it would be too hazardous to finish the enucleation. He next tried to strip off the lining membrane, but he could not do so safely because of its intimate relation with the large blood-vessels and ureter. He finally drew out all that was separated and tied the entire mass. The stump was dropped and a drainage tube inserted. The patient recovered, but she still has an occasional fistulous opening at the site of the drainage tube. He does not think that this cyst was papillomatous, but it was certainly intra-ligamentous.

In another case, he performed secondary ovariectomy for a small tumor of this character in a case of hystero-epilepsy and metrorrhagia. The upper surface of the tumor looked not unlike the pregnant uterus in color and vascularity. Its outer wall was interlaced with a network of veins, some of them as large as a quill. Exploration with the fingers showed it to be so deep in the pelvis, and so closely attached to the uterus, Fallopian tube, and broad ligament, that they seemed to be one mass, the whole attached by a broad surface to the pelvic floor. The cyst was almost filled with papillary material, and it was difficult, on account of adhesions and the deep location of the tumor, to remove it without the escape of some of this material into the peritoneal cavity. Irrigation was not used, nor was drainage, as they did not seem to be necessary. The patient made an excellent recovery from the operation. The after-history of this case is of value. A year or two subsequent to Dr. Baer's operation, she consulted Dr. Kelly, who performed a third laparotomy, for what purpose and with what result it would be interesting to learn from him.

A fourth case had been diagnosticated fibroid of the uterus, and it presented some of the features of that disease. The womb seemed to be one with a hard tumor the size of a child's head, which occupied the right iliac region, and the patient suffered from severe metrorrhagia. The left side was somewhat similarly affected, but not to the same extent. Under ether, diagnosis of cystic tumor of the ovaries or broad ligaments was made. Laparotomy confirmed the diagnosis, and showed the tumors, broad ligaments, and uterus to be one mass. Profiting by his former experience, he began by ligating the Fallopian tube and larger blood-vessels before beginning the enucleation, and had no trouble from hemorrhage. By this means, the larger tumor on the right was safely removed. But the one on the left side was so firmly fixed to the womb that to remove it would have required hysterectomy as well. Even this could not be done because of the pelvic attachments of the tumor. It could not be drawn up. He then tore a small opening through the posterior surface of the broad ligament, and shelled out the lining membrane of the inclosed sac. Free hemorrhage occurred, but was controlled by sponge packing. Drainage was used; the patient recovered.

In still another case operated upon recently, he was compelled

to remove the right cornu of the womb with the tumor, because of the close connection of the small tumor to that organ and the tube. A similar condition existed on the left side. The tumors were papillary, and the patient had suffered from great hemorrhage at intervals during two years. Drainage was used, and the patient has recovered from the operation.

Dr. Baer did not consider these papillary cases malignant in the sense that they will return after operation; they were certainly not epitheliomata.

DR. H. A. KELLY has had three cases of the class of tumor described by Dr. Goodell, two of them resulted fatally, the other had been operated upon twice before by Dr. Baer, and an exploratory incision showed that nothing could be done. She lived more than a year afterward, but has since died. Old pus cases are child's play compared with these. One very important point in the technique of these operations is to protect the intestines from cold by means of flat sponges wrung out of hot water, and he would now dust over the seat of the tumor from forty to sixty grains of iodoform. Both of his patients lost a great deal of blood, and both were affected as if an acrid poison had been introduced into the system. He has once wounded the bladder. The drainage tube should always be used in these cases. A curved needle has proved very useful in inserting deep sutures. In the case operated on twice by Dr. Baer, small cysts subsequently grew (formed?) and burst. The entire peritoneum was studded with papillary growths and the exploratory incision was closed immediately. These patients showed wonderful tolerance and suffered great pain.

DR. GOODELL's experience tallies with that of Dr. Kelly, that some of his patients were eventually poisoned by the virulent character of the cyst contents, and died a few months later, while the majority were not affected at all. One explanation of these varying results may be expressed in the statement of Virchow that a papillary growth may be benign at an early stage of its development and may afterwards take on malignancy. The walls of these parovarian intra-ligamentary cysts are very thin, as mentioned by Dr. Drysdale. He had called attention in his paper to the danger of wounding the great vessels, and mentioned a case in his own practice which Dr. Drysdale overlooked. He likes Monsel's solution as an application to oozing surfaces. He has used it freely, in full strength, over the whole capsular cavity, by means of a sponge saturated and squeezed out, or he wets the end of his finger with it and applies it to bleeding points. Our president has been very fortunate not to have wounded the bladder in such operations, for all the eminent operators have reported cases.

DR. BARTON C. HIRST reported a case of

#### CHOREA IN A PREGNANT WOMAN.

It is not often that one has an opportunity to study chorea in the pregnant woman, and, consequently, each additional case that is reported must excite some interest. But, aside from its rarity, the extraordinary mortality that attends this disease of pregnancy, as well as the constant disposition to abortion, lends additional interest to the study. Barnes, Jaccoud, Wenzel,

Bamberg, Spiegelberg, and Hervé found, respectively, in 56, 31, 66, 64, 69, and 14 cases a mortality respectively of 30, 12, 27, 28, 28, and 21 per cent,<sup>1</sup> while in more than half of all these cases the product of conception was expelled at varying periods before term. Without, however, entering into an extended consideration of the frequency, mortality, causes, or treatment of chorea gravidarum, it is simply my intention to report to the Society a case which has recently come under my observation in the Maternity Hospital, the history of which may be briefly given as follows: Lizzie H., primagravida, aged 19, was admitted to the hospital last August, being then in the sixth month of pregnancy. There was, she said, no tendency to nervous disease in any member of her family, and she had herself been healthy until her ninth year, when she was seized with violent choreic movements of the left arm and leg. This attack lasted about a year, when it yielded to treatment; but the disease reappeared in her twelfth year. She was then sent to England, her family's home, in the hope that the change of climate and the sea-voyage might benefit her. This it did greatly, and she was free from chorea until her return to this country in her fourteenth year, when the disease again appeared, this attack, however, lasting only fifteen weeks. Menstruation was established at the sixteenth year, and, after recurring for a few periods, suddenly ceased and remained suppressed for five months, during the whole of which time the choreic movements, confined, as they had always been, to the left arm and leg, were 'so violent that the girl dared not go out of the house alone. With the reappearance of menstruation, the movements suddenly ceased, and the patient remained free from the disease until the occurrence of the first fruitful coition, which was followed almost immediately by the reappearance of the chorea. No history of rheumatism could be elicited. The case first came under the notice of my colleague, Dr. Constantine Goodell, who placed the girl on increasing doses of iodide of iron and arsenic, much to her benefit. When I saw her, the movements recurred every few seconds, and seemed confined to the flexor muscles of the forearm and fingers on the left side and to the flexor and adductor muscles of the left thigh and leg. No abnormality of the heart could be detected, except a slight rapidity of beat. The girl's appearance, which I was told had been very anemic, was quite healthy. Dr. Goodell's treatment was continued with such marked and increasing good effect that towards the close of pregnancy the movements were little noticeable, whereas at first they had been so energetic as to interfere with locomotion. In the seventh, eighth, and ninth months, however, during the time corresponding to the menstrual period,

<sup>1</sup> Hervé: Thèse "De la Chorée pendant la Grossesse." Paris, Thèses de l'Ecole de Médecine, 1883-84.



the disease grew worse and was associated with painful and frequent uterine contractions and a slight hemorrhage. On November 11th, active uterine contractions began, the pains recurring every two or three minutes, and the uterus contracting firmly. This continued for four days, without in the slightest degree affecting the dilatation of the os, the patient meanwhile obtaining no rest day or night, and the chorea growing rapidly worse again. Finally, on the fifth day, a bougie was introduced within the uterus. In three hours, dilatation had begun, and in twelve hours the baby was born. Fifteen days later, the chorea had practically disappeared, and the child, carefully watched, has manifested no signs of the disease.

DR. GOODELL remarked that Dr. Barnes had collected fifty-six cases of chorea complicating pregnancy, and had found the mortality very heavy. Dr. Goodell had had one case of extreme severity at the Preston Retreat. The movements were unilateral, during labor they were astounding in their violence. Every muscular grimace and contortion possible was assumed. The patient was placed on thick carpets on the floor to prevent injury. This condition continued after labor until, completely worn out, she died. He had another case which, however, was controllable. The complication is a very fatal one, the mortality being about thirty per cent, if he remembered correctly Dr. Barnes' statistics.

DR. JOS. PRICE presented a large

MULTILOCULAR CYSTOMA WHICH HAD COMPLICATED PREGNANCY  
AND LABOR.

The patient was very large and twins were expected, the presence of the tumor not being diagnosticated until after the delivery of the child. The tumor had many adhesions to surrounding surfaces, including the bladder. The recovery was slow and poor after the labor, but quite satisfactory after the removal of the tumor.

DR. H. A. KELLY read a paper on

RESUSCITATION OF THE ASPHYXIATED NEW-BORN CHILD.

DR. HIRST did not think there was any danger in Schultze's method, if it was carefully performed. In the white form of asphyxia it is often doubtful if any method will be successful, but in the livid form almost any of the methods will often suffice. He thought insufflation a very good method either by mouth-to-mouth or if the air is directed into the lungs by means of a catheter. He had succeeded in restoring a child by galvanism after it had remained apparently lifeless for forty-five minutes. He thinks Schultze's method combines the advantages of Drs. Kelly's and Sylvester's methods. He has seen it employed in the large German maternities and has used it himself many times without seeing any injury to the child resulting from this method. One child was delivered under his care—a face presentation—which was deeply asphyxiated. All methods, including Schultze's, Sylvester's, and intubation, having failed on account



of obstruction about the larynx, the result of the unnatural posture, he tried tracheotomy with subsequent artificial respiration, but it was too late. It has been successfully performed in England, and he will resort to it earlier if he again thinks it needed.

DR. GOODELL thought that the danger in these methods of inducing respiration lay in their roughness; they were liable to put out the flickering flame of life. He has seen buttock slapping and various other violent methods resorted to to quicken slow breathing, and he was sure that they had extinguished the feeble life of the child. When the child gasps, he sometimes blows on the chest or gently rubs its back to induce more frequent respiration and then lets it alone, merely wrapping it up warmly. But if there should be no effort at respiration and the heart still beats, then any of these rougher methods are permissible. In the Preston Retreat he was accustomed to lay the child across his knee, the head and arms hanging down on one side and the limbs on the other side of the hand; then he gave it a quick upward movement and, as it came down, he doubled the child up with its knees to its chin. This folding and unfolding of the child favored the entrance and exit of air. But after it had gasped once he stopped all violent movements and practically let it alone. In one case where he had been called in consultation, one of tedious labor, the child of a physician, after all efforts had been made to induce respiration, they were discontinued as fruitless and the child was laid aside as dead. In a few minutes afterwards it was heard to cry and is now living. In another case, after every method of inducing respiration had failed, the child was pronounced dead by the father, a physician, and also by the attending physician. To keep the body sweet it was placed outside of the window on the roof, the night being a cold one. When the child was taken in to be washed before it was laid out, it was found living and it is now alive. On one occasion at the Preston Retreat a child was laid aside in a corner as dead after he (Dr. G.) had used various methods of artificial respiration. An hour later the nurse took it into the bath-room to wash its body and she found it breathing. It also lived.

DR. LONGAKER wished to emphasize the principle of not doing too much to quicken respiration. He feels sure that one child would have had a better chance for its life if he had not inserted a catheter into its trachea. He succeeded in making the child breathe, but the air vesicles were injured by over-distention and death resulted twenty-four hours later. Rubbing the back is a very good method. Dr. Champneys, in the *Am. Jour. Med. Sci.*, April, 1886, recommends holding the child with its head in a dependant position to relieve anemia of the medulla, which he thought the cause of asphyxia in many cases.

DR. W. S. STEWART remarked that a child had been born prematurely, it was not considered viable and was laid aside and supposed to be dead. He was not present at the delivery, but when he arrived long afterwards, he asked to see the child and found a little life in it; he laid it on the mother's breast. It is now a bright little girl. He thinks there should not be too much rough handling. A little heat to the spine has a good effect. He thinks Dr. Kelly's method very ingenious and good; he would suggest holding the child so that its right side would be lower, to favor

closure of the foramen ovale, so as to send the blood from the right side of the heart through the lungs as suggested by Dr. Chas. Meigs.

DR. J. PRICE remarked that the cause of asphyxiation was tediousness in the labor, and the use of anesthetics and the forceps. He reported one case in which the child did not breathe for twenty minutes after it was born. Another child was delivered by traction rods; it weighed twelve pounds thirteen ounces and was delivered through a flattened pelvis after long delay and very hard pulling; it was fully asphyxiated, but finally, without anything having been done to help, it breathed and cried strongly. Dr. R. Cruice had delivered a child after a hard labor, it gasped feebly, but after half an hour it cried loudly. Such cases should not be thrown around like shuttle-cocks.

DR. HOWARD A. KELLY, in closing, said as regards the use of his methods of resuscitation: If the child is livid, with but little pulsation, catheterization of the trachea would be best, but when the child's heart is beating strongly, but no attempt is made at breathing, he would recommend his plan. Schultz's method is liable to do injury from the way in which the child is held at the upper end of its swing when the limbs are extended far back on the child's lumbar region. Mouth-to-mouth inflation is poor because much escapes by the nose, and the stomach becomes inflated and holds the diaphragm up, thus interfering with inspiration. He related one instance where a nurse, who had tuberculosis, had by this method infected several children with tubercular meningitis. Galvanization is perhaps the best of all methods, but it is not always available. He wishes it to be understood that he does not claim his method to be the best in all cases.

---

## TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

---

*Regular Meeting, Friday, Dec. 16th, 1887.*

*The President, HENRY T. BYFORD, M.D., in the Chair.*

THE PRESIDENT exhibited

### A NEW UTERINE ELEVATOR,

and said: I have been in the habit, for a long time, of introducing an ordinary straight, hard-rubber intrauterine stem into the retroflexed uterus before replacing it, in order to stiffen or straighten it, and to serve as an indicator of the position of the fundus after it has ascended out of reach. Last summer, a cutler showed me a uterine elevator, invented by Dr. Miller, of San Francisco, which consisted of a straight steel stem, fastened upon the end of a thimble, with the end in view of making the stem a continuation of the finger end. I was unable to use this one, be-

cause in bending my finger so as to push the cervix back in place my knuckle would catch against the posterior vaginal wall or pelvic floor. I therefore constructed the instrument which I show you. There are three stems: a jointed steel stem, like that upon the end of Emmet's elevator, and two copper ones of different sizes, slightly flexible. Any of these may be attached to a shovel-shaped piece in which the finger end lies at right angles to the stem. The cervix may thus be pushed backward or sideways, and the fundus pried forward. With the finger thus against the end of the stem, and practically against the cervix, we can calculate the position of the fundus, the amount of resistance to replacement, and avoid all violence and danger.

The Secretary read the following:

REPORT OF A CASE OF TUMOR OF THE ILEUM; DEATH FROM  
INTESTINAL HEMORRHAGE; EXTENSIVE COMPLICATING LESIONS.

Reported by DR. F. W. MERCER, Chicago.

The following history was communicated to me by Dr. Converse, the attending physician:

Annie W—, single, æt. 34 years, was always considered in good health. Had menstruated regularly without undue pain till within the past year, when it was observed that the flow was not quite as copious as in health. All the other bodily functions had been regularly performed so far as the friends knew. Miss W. was of cheerful disposition, vivacious, and physically strong, being able to toss her sister's child, weighing about twenty pounds, up at arm's length above her head.

About one year ago, she consulted a leading physician of this city to whom she complained of a throbbing sensation in the left inguinal region, and also of some slight digestive disorder. The doctor informed her that he considered the throbbing due to the presence of gas in the intestine, and prescribed some digestive. After this, the patient went along as usual, not making any special complaint, till the morning of October 16th, 1887, when she said she felt tired, reclining upon the bed in her room. About 11 A.M. she had a movement of the bowels, consisting almost entirely of blood, but not large in amount. Dr. C., who examined the stool, concluded it was due to "bleeding piles." Absolute rest was ordered. At 12:30 P.M., the patient left her bed and entered the bath-room, where she fainted while passing another bloody stool. She was carried back to bed, where she soon revived. Dr. C. saw her again, and ordered pyrogallic acid and ergot, with brandy at short intervals. From this time till 9 P.M., she grew very restless, having involuntary discharges of blood which were received upon cloths, making any accurate estimate of quantity impossible. At about the last-named hour, I was called in consultation, and found the patient tossing from side to side of the bed, groaning, and complaining of pain in the umbili-

cus. The features looked shrunken and pinched, the surface blanched and clammy, the face very cold to the touch, and the pulse barely perceptible. In fact, the patient appeared moribund from hemorrhage.

An examination of the abdomen was made, and the presence of a tumor, quite symmetrical, of globular form, was discovered in the median line, just above the pubes; an enlarged uterus was suspected as the source of the hemorrhage, and an examination per vaginam was made, with the result that the os was found to be of pin-point character, cervix elongated, and giving no indications of hemorrhage.

Hot-water bags and bottles were applied to the surface, warm blankets packed about the body, and brandy given subcutaneously, with aromatic spirits of ammonia by the mouth. Transfusion was thought of, but, the means not being at hand, it was not tried. Dr. E. W. Sawyer was called, but little could be done, as the patient was now *in articulo mortis*.

Section, fourteen hours after death; Dr. E. D. Converse, Dr. E. W. Sawyer, Dr. W. Barry, Dr. Frank Andrews, and your reporter being present. The section was made by Dr. Frank Andrews. The body appeared well nourished; the rigor well marked. Upon reflecting the abdominal parietes, the intestines appeared rather pale, and not unduly distended. At the lower hypogastrium a tumor was found resting in the median line. It was globular, ten centimetres in diameter, and weighed four hundred and fifty-four grams; was moderately firm in consistence, and attached by a slender pedicle to the small intestine (ileum), about fifteen inches above the cecum. Upon section of the ileum, an oval opening was discovered upon its mucous surface, about four by three millimetres. This opening corresponded to the attached pedicle, and communicated directly with an artery of about four millimetres calibre. It was undoubtedly from this that the fatal hemorrhage occurred. There were old and extensive adhesions of the intestines to the peritoneum. Both the right and left kidney showed a greatly reduced cortex; and the tubuli and pelves were found filled with pus. The liver was very fatty and friable, breaking under pressure like old granular tallow. The uterus was converted into an irregular lobulated mass, consisting of fibroid tumors. The thorax was not opened.

DR. F. W. MERCER.—I very much regret that I have not the stained specimens to show you to-night. I have, however, examined the tissues, and the tumors of the uterus are intramural myomata. The tumor of the intestine is also a myoma. It is a very vascular structure. I have been unable to develop the literature on this subject; few, if any, such cases have been reported, and I have not been able to find a parallel case to the intestinal tumor, as regards the peculiarity of its attachment and the openness of the blood-vessels. Myomata are often very vascular.

DR. E. W. SAWYER.—As a still further emphasis of the condition of this patient, I want to say that she filled a difficult clerical position, involving a good deal of labor, up to the day previous to her death. I have seen her in life for the last ten years, and knew her to be industrious and a healthy appearing woman.

DR. C. T. PARKES.—It might be proper to suggest the idea that this was an angioma. The partial description that has been given would call my attention to growths of that character; its extreme vascularity; the size of the vessels entering into it; its position, differing in this respect from myoma. The tissue about the walls might be connective tissue, showing some evidence of muscular fibre.

I speak merely from my experience. I have seen quite a number of myomata, but never saw any that showed the peculiarities of this specimen. It might have developed, as suggested by Dr. Dudley, in some other place, this being a foreign position. As to its attachment, I think it would be in reason to say that it might show muscular fibre, if it was an outgrowth from the intestine. I would not say, of course, that it is not a myoma.

DR. A. REEVES JACKSON.—It seems remarkable that this should be a myomatous tumor when so little muscular structure can be found as a basis in the intestine. The case, too, is interesting and remarkable in its history, from which we learn that the woman had degeneration of long standing of a portion of the liver; that there were adhesions of the intestines to the abdominal wall, indicating the former existence of peritonitis; that there was a fibroma of the uterus; and yet, despite all these diseases, the patient was in good health up to a recent date. All this is very remarkable. I know that women can live and seem fairly healthy with a good deal of disease present, but such an amount as was present in this instance seems quite inconsistent with a condition of *good* health. It is exceedingly important that this specimen should be examined microscopically, because its nature must be of very great interest to the pathologist.

On motion, the tumor was referred for further investigation to a committee, consisting of Drs. Fenger, Mercer, and Sawyer. The report to be read at the January meeting.

DR. E. C. DUDLEY reported

#### A CASE OF VAGINAL HYSTERECTOMY FOR SARCOMA UTERI.

The patient, a multipara, 62 years of age, came to me from Dr. Sibree, of Sturgeon Bay, Wis. Dr. Sibree, several months before, had removed a soft, friable mass filling the uterus and vagina. When the case came to my clinic at St. Luke's Hospital, two months ago, the tumor, which had returned, enormously distended the uterus and vagina. Under ether, the operation previously performed by Dr. Sibree was repeated, and a soft, friable mass, weighing not less than two pounds, was removed. The tumor was attached by a short pedicle, about three-fourths of an inch in diameter, to the left side of the uterus, about on a level with the os internum. The specimen was examined by Dr. Wing, who pronounced it to be a sarcoma; I therefore determined to



remove the uterus per vaginam, which was done three weeks ago to-day.

The case is remarkable and interesting. Remarkable because sarcoma of the uterus is a somewhat rare disease, the number of cases on record being less than one hundred. Interesting because a method of operation was employed which has heretofore not been very much used—the method of Péan, *i. e.*, hemostasis was secured entirely by means of pressure-forceps, no sutures or ligatures having been used. The cervical canal was first stuffed with absorbent cotton, and closed with a single suture, which was passed through the anterior and posterior lips. This was done in order to prevent any of the contents of the uterus from coming in contact with the perineum, in case it was found necessary to turn the cervix into the pelvic cavity. The cervix, seized with strong lock vulsellum forceps, was drawn to the vulva, and an incision was made with scissors entirely around the cervix at the utero-vaginal attachment; with the finger the post-cervical structures were torn away from the cervix, keeping close to the uterus until the cul-de-sac of Douglas was reached; with two fingers in the cul-de-sac of Douglas, it was easy to enlarge this opening by tearing, until I had reached the region of the broad ligament on either side; I then attempted to divide anteriorly in the same way, but, being solicitous about invading the bladder, I kept so close to the uterus as actually to tear up a layer of the muscular structures. I had carried this process beyond the vesico-uterine attachments, indeed almost to the fundus, before I discovered that I must be beyond the region of the bladder. I did not at once enter the anterior cul-de-sac, but, taking a pressure-forceps with long blade in the right hand, I passed the index finger of the left through the posterior opening, and hooked the point of the finger around the left broad ligament; then, with the lower blade of the forceps in the posterior opening, I punched through to the finger tip with the other blade, and locked the forceps, thus securing the left broad ligament. The right broad ligament was secured in the same way, and the utero-vesical attachment severed with the scissors and the uterus removed. Upon putting the forceps upon the right broad ligament, and finding that the disease had extended through the uterine wall on that side and involved the uterine end of the right broad ligament, I pulled the ligament out and put on another pair of forceps back of those originally used. These forceps included the ovary and Fallopian tube on that side, and I hope all the disease.

The only difficulty in this operation was in consequence of extensive adhesions of the uterus posteriorly to the small intestine. At least twenty minutes were consumed in carefully breaking up these adhesions. The right ovary and tube came down and were



secured in the grasp of the forceps, but the patient having passed the menopause, the left were not removed. Several bleeding points anterior and posterior to the uterus were secured by means of ordinary pressure-forceps, all of which were left in the vagina.

Instead of closing the vaginal wound with sutures, the peritoneal edges anteriorly and posteriorly were caught at two points with lock-forceps, so that in reality the peritoneal wound was closed at these points, leaving space enough between the forceps for drainage. All the forceps except those on the broad ligaments were removed in twenty-four hours, these were removed at the end of forty-eight hours. It would possibly be safe to remove even the forceps from the broad ligaments in twenty-four hours, but leaving them forty-eight hours is an additional safeguard and insures more prompt separation of the necrosed tissues within their grasp.

The patient had no bad symptom until the fourth day after the operation when she developed a slightly elevated temperature and a pulse of 140, very weak and almost like the pulse of collapse, but with a moderate amount of stimulation, circulation greatly improved and was again normal in twenty-four hours. It is now three weeks since the operation, she has had no further trouble and is sitting up. I learned after this trouble with the circulation what I had not recognized before and what would have deterred me from operating had I known it, that the patient had a fatty heart.

I think this method of removing the uterus will be generally adopted. The operation in this case lasted forty minutes. If it had not been for the adhesions it could have been done in twenty minutes without difficulty.

This operation may have a wider field than ordinary vaginal hysterectomy; I have determined that the next case I have of uterine myoma, in which supra-vaginal hysterectomy would ordinarily be performed, to open the abdomen, lift the tumor out through the abdominal wound, and then, instead of using the *serre-nœud*, to secure the broad ligaments by means of lock-forceps in the vagina. It would probably be easy, by having the index and middle fingers in the pelvic cavity, one on either side of the broad ligament as a guide, to force the blades of the forceps through close to the uterus on either side of the ligament to the finger tips, and then, having secured both ligaments, sever the anterior and posterior uterine attachments. The peritoneal edges of the vaginal wound might then be closed with a continuous catgut suture or seized with lock forceps in the vagina, as already described. This method of performing hysterectomy for myoma when the tumor is too large to be delivered through the vagina is worth trying; it would enable the operator to dispense with all extra-peritoneal methods of hemostasis, and might afford all the

advantages which belong to intra-peritoneal hemostasis for ovariectomy.

THE PRESIDENT reported

A CASE OF VAGINAL HYSTERECTOMY,

and exhibited specimen.

Miss P., is a virgin, 57 years of age; ceased menstruating over ten years ago. About eight months ago she had a slight hemorrhage from the uterus, and for five months before the operation had been bleeding (sometimes profusely) most of the time. She had been bedridden for five weeks, suffered frequently with severe pain in the lower part of the abdomen, and was the most waxy, anemic looking person I remember to have seen. Her pulse ranged from 100 to 120. Her evening temperature, from the normal in the morning, ran up to 101° F., and sometimes higher upon the few evenings before the operation. When not bleeding she had an offensive vaginal discharge. She was subject to daily hysterical attacks in which she and her friends feared she might die. A loud, anemic cardiac murmur could be heard. Vaginal indagation revealed a friable vascular mass about the size of a small hen's egg, projecting from the cervix into the vagina, and continuous with the posterior lip. A piece taken from the lower end was examined and pronounced papilloma. I had considered it cancer and had contemplated hysterectomy, but felt relieved at the diagnosis, because the operation would have been long and difficult on account of the virgin and senile condition of the vagina and perineum, and the success would have been doubtful by reason of the extreme anemia and nervous prostration. I also feared she would not bear anesthesia well for the necessary length of time.

She was anesthetized at 9 A.M., Dec. 7th, for the purpose of curetting, but the posterior wall of the cervix as far as the internal os was found so degenerated that a complete removal was considered impossible without breaking into the cul-de-sac of Douglas. The posterior vaginal wall was also infiltrated behind the cervix. I therefore resolved to take out the uterus, and did so at 1:30 P.M. The method I employed proved so successful and seemed so well adapted to her case that I think it worth while to mention it and advise it for cases presenting similar difficulties.

After a thorough disinfection of the parts, I introduced sutures of juniper catgut around the vaginal fornices so as to make a circle of ligatures. I made a bloodless incision inside of the circle, commencing in front and separating the bladder and the broad ligaments for a short distance at the sides before introducing the posterior sutures, completing the circular incision posteriorly, and opening the peritoneal cavity. Scarcely half an ounce of blood was lost. After opening the cul-de-sac its entire

width, a pair of hemostatic forceps was placed on the left sacro-uterine and base of the left broad ligament, and the uterus cut loose on that side as far as the forceps reached. The manœuvre was then repeated on the other side. Then another pair of forceps was placed on each side just above the first, and the tissues severed as high as they extended. A third pair on each side included the Fallopian tubes, and enabled me to cut out the uterus with the loss of less than an ounce of blood except that which had oozed from the diseased cervix. Some iodoform gauze was stuffed in between the forceps. The forceps were removed at the end of twenty-eight hours, with great distress to the patient and followed by a temporary rise of temperature from  $99\frac{2}{3}^{\circ}$  to  $100\frac{2}{3}^{\circ}$  F. The temperature went down, however, and did not rise that high again until the beginning of the fifth day, when it again went up to  $100\frac{2}{3}^{\circ}$  F., but subsided upon removal of the tampon, which had become offensive. She turned on her side at the beginning of the fourth day. The bowels were moved on the fifth day by a Seidlitz powder. After the removal of the iodoform gauze on the beginning of the fifth day, vaginal douches with a tube for the return flow were used twice a day. After the sixth day they were carbolized.

Having performed the operation both ways, viz., with and without hemostatic forceps, I feel justified in asserting that ligatures are better for cases in which the size of the vagina and mobility of the uterus allow of their application without too much loss of time, for there is less bruising of the broad ligaments and less sloughing afterwards. They may be left long and used instead of sutures to draw the stumps together over the vaginal opening. For cases in which time is an important element, and the broad ligaments cannot be rapidly ligated, the forceps are preferable. In the hands of the beginner they are safer because they may be applied with less handling and exposure of the peritoneum, and are not liable to be followed by hemorrhage. Ligation of the vaginal walls before cutting can be done so quickly and easily that it is a desirable procedure in all cases.

The growth, as you see, has extended as high as the internal os, with the main part of it taken off it looks like an epithelioma of the cervix. The uterus is small in size. Sarcoma, originating in the cervix, would seem to be a rare occurrence, and this one cases is, as far as I can determine, the thirteenth one recorded. One has been recorded by G. Veit ("Handbuch der Speciellen Pathologie," etc., von Virchow); one by Scanzoni ("Lehrbuch der weiblichen Sexualorgane"); one by Kunert (*Archiv für Gynekologie*, Bd. VI., p. 113); one by Leopold (*Archiv f. Gyn.*, Bd. VI., p. 493); one by Grenser (*Archiv f. Gyn.*, Bd. VI., p. 501); two by Spiegelberg (*Archiv f. Gyn.*, Bd. XIV., p. 178, and Bd. XV., p. 437); one by Rein (*Archiv f. Gyn.*, Bd. XV., p. 187); one by Winckler (*Archiv f. Gyn.*, Bd. XXI., p. 309); one by Schwartz

(Beerman, Inaug. Diss., Göttingen, 1876); one by Zweifel (*Centralblatt für Gyn.*, 1884); Hunter (*AM. JOURNAL OF OBSTETRICS*, Vol. XVII., p. 523), and this one. Some of these were not primary sarcomas, but were developed secondary to other growths, such as papilloma, fibroma, etc.

#### *Report of Pathologist.*

**Microscopical Examination of the Cervix.**—On the surface the growth presents the structure of papilloma, *i. e.*, villous projections consisting of a connective-tissue stroma covered over completely by several layers of ovoid cells. Upon the surface of these there is a single layer of columnar epithelium.

In the specimen this has been stripped off on part of the surface.

The columnar epithelium is not as tall and less delicate than that of the normal mucosa.

At the base of these villi the tissues are considerably altered. They consist largely of granulation cells. The normal glandular elements have quite disappeared in some parts, in others they are greatly modified; the cells lining the follicles being irregular, ovoid, or spindle-shaped.

Many of the glands are quite replaced by sarcoma corpuscles.

In some points of the specimen, there occurs a delicate network of branching cells, presenting the characteristic appearance of myxoma. These portions are considerably softer than the surrounding structure.

*Diagnosis.*—Papilloma at surface.

Myxo-sarcoma at base.

The disease was probably primarily simple papilloma, and is now in the stage of transition to sarcoma.

MARIE J. MERGLER.

DR. J. H. ETHERIDGE.—I understood Dr. Byford to say that a portion of the growth involved the vagina also, and I would like to ask him if he could follow up the broad ligament well enough to find if there was any involvement of that structure.

DR. BYFORD.—I did follow it up and put on the forceps.

DR. ETHERIDGE.—I saw a case about two weeks ago that was very interesting and instructive to me. It was the removal of the uterus for cancer of the cervix. Upon examination, at first we thought we would not take it out, but as the whole cervix was involved and it had spread over upon the sides of the vagina, the left side a very little and considerably upon the right side, it was concluded to go on and do the operation. The operator freed the cervix from the vagina and then commenced the peeling up process, the broad ligaments were exposed, and the forceps put on, and the uterus cut away. In the left broad ligament, throughout its whole extent to the pelvic wall, there were nodular enlargements, showing that the broad ligament itself was involved, and that, too, upon the side in which there was the least encroachment of the vagina; on the right side there was no involvement of the broad ligament. There were eight or nine forceps left in

the vagina, which were removed at the end of forty-eight hours without any trouble. She has recovered from the operation nicely.

I have often wondered how the broad ligament appeared when infiltrated with cancerous material, and I think now that I know.

If the case Dr. Dudley reported is the one I saw, and he did not speak of one thing, I would like to speak of it, and that was a clever bit of ingenuity on the part of a clever operator in retroflexing the uterus. If I remember rightly, he attempted to push it down and draw it down from beneath without avail, and then, by taking a pair of vulsellum forceps, he grasped the uterus just above the vaginal attachment and drew it down, then took another forceps and drew it down a little more, then another, and so on, and in that way got the uterus down easily; which impresses one who has had trouble in getting the uterus down within reach.

Since the October meeting, at which a paper of mine on this subject was read by title, another case has passed through my hands which I have not reported to this Society. It was a case in which there was a development of a small fibroid tumor in the posterior uterine wall. All attempts at retroflexing or retroverting the uterus were unavailing, and it had to be removed by detaching the broad ligaments with the uterus turned upward. The patient has gone along without trouble and has made a complete recovery. The uterus was removed for incoercible hemorrhage. Everything else had been tried, scraping, stimulating applications, ergot, etc., and the operation which was expected to be performed was removal of the ovaries. But as I had had the experience of removing two pairs of ovaries for bleeding fibroids, and they kept on bleeding, I explained to her the difference between removal of the uterus and the ovaries, and she finally accepted removal of the uterus.

I believe one of the greatest advantages of the forceps over the ligature is the superior facility for free drainage. All fluids will run down through the opening in the vagina left by the forceps, in a perfect manner, and there is no danger of the fluids remaining in the peritoneal cavity by the closing of the top of the vagina, which is speedily brought about. After the patient is put to bed, it is but a few hours before we have a closed cavity in which fluids may decompose and septic peritonitis ensue, unless effective drainage, such as the forceps afford, be used. I think that one advantage over the ligature is enough to induce every operator to use the forceps.

DR. JACKSON.—It occurred to me, in examining this specimen, that it was not necessary to remove the entire uterus. High amputation of the cervix would have removed all of the disease and would have lessened the danger to the patient.

I want to refer to a point in Dr. Dudley's remarks with reference to the attachment of the sarcoma to the uterus by a pedicle. I desire to ask whether that is a usual method of attachment of a sarcoma? In the cases of uterine sarcoma that I have seen, the disease commenced on a flat surface—the attachment was sessile. I once saw a case which I at first supposed was one of sarcoma, but subsequent examination with the microscope determined that it was not a sarcoma but a degenerated fibrous polypus.



These microscopic examinations of malignant diseases, by the way, are not always reliable; in my own experience, I have received three widely differing reports, all made by competent persons, and from the same specimen, so that I must confess I have less confidence in the microscope as a diagnostic instrument than I formerly had. I regret this very much because, in many cases, we depend almost entirely on such investigations to determine our diagnosis and treatment.

DR. PARKES.—I was exceedingly interested in Dr. Dudley's case, and especially in the manner of securing the broad ligaments by means of forceps. I had the pleasure of witnessing the use of these forceps by the person who first invented them, Péan of Paris. In 1883, I did the first operation that has come under my care for removal of the uterus per vaginam by this method. In 1886, I did it again, and during the early part of this year I removed three uteri, and in each of them I employed the method that has been described this evening, the use of the snap forceps in controlling the broad ligaments, instead of ligatures. After listening to a report of similar cases by Dr. Etheridge, I remarked that I did not see why, in this method, the uterus should be retracted, that so far as my experience went I found no difficulty after the division was made in the cul-de-sac of Douglas, in reaching the top of the broad ligaments with my finger, and found no difficulty in severing the attachment, and had no subsequent difficulty from hemorrhage. I can very well see that occasional cases will be met with where it will be difficult, if not impossible, to reach the top of the broad ligament so as to be sure that every portion is included in the grasp of the forceps, as in Dr. Byford's case, and in another case I saw where the uterus had in its posterior wall a large tumor, and where it was with great difficulty removed. In these instances it may be necessary to reverse the uterus. The objection to reversal is, that it twists the broad ligaments, and we know that any instrument used for pressure acts better the thinner the tissue that is engaged in its bite.

It is only lately that very much has been said in the journals about the use of forceps instead of ligatures. Within the last two years, an article has appeared in the journals by a French gentleman who has reported some forty cases operated upon in this way. The objection that comes to my mind, in the use of these forceps in operation for large myomata of the uterus, is that, in the cases I have seen, the broad ligament has been carried up with the uterus to such heights above the top of the vaginal wall, that no forceps I have seen would embrace all the tissues. Still the plan would be good; abdominal section would enable one to tie the broad ligaments half way down to the uterine arteries, and then the forceps could be used.

DR. E. C. DUDLEY, in closing the discussion, said: Dr. Jackson has asked for my experience relative to the question whether sarcoma is apt to be attached to the uterine wall by a pedicle. Sarcoma of the uterus is too rare to permit any one operator to speak from experience. It is, however, true that sarcoma may be attached to the uterine wall by a broad or narrow pedicle; on the other hand, as Dr. Jackson says, it may be intramural. This tumor had a very short pedicle; the growth filled and distended the entire uterus; there was perhaps a pound of sarcomatous tumor in the uterus at the time of my first operation, three or four weeks before the second.



I have more confidence in the accuracy of pathological observations through the microscope than Dr. Jackson, never having had occasion to question the diagnosis of a pathologist, although, like Dr. Jackson, I have frequently employed two or three microscopists to examine the same specimen independently, but I have always taken care to employ good pathologists, of whom Dr. Wing is one.

The objection of Dr. Parkes against the operation which I have indicated for removing myomata and securing the broad ligaments by means of lock forceps in the vagina would not render the procedure impracticable. The broad ligaments could easily be stripped from the uterus until it became possible to include them in the grasp of the forceps. For this operation, it would be well to have, in addition to the ordinary forceps, four pairs of forceps with very long blades, two of which could be fastened on either broad ligament close to the uterus, and the ligaments could be divided between them, then the ordinary forceps might be passed through the vagina with their blades on either side of the remaining portions of the broad ligaments. After removing the uterus, the entire broad ligament on either side could then be grasped in a single pair of vaginal forceps, which should have longer and stronger blades than for ordinary vaginal hysterectomy on account of the great hypertrophy of the ligaments.

Dr. Byford considers the method of Pean inferior to that of the ligature for certain cases in vaginal hysterectomy. Pean's method seems to me better and safer for all cases. The hemostasis can be more quickly secured by the forceps than by the ligature. A single pair of forceps will secure a mass which would require several ligatures. The hemostasis is almost absolute when secured by the forceps, but is uncertain with the ligature. After the forceps have been left on for forty-eight hours, there is necrosis of that portion of the ligaments within their grasp and we thereby get rid of it; not so with the ligature mass, it must remain as a slough, sometimes for many days. Moreover, after a ligament is found to be involved in the disease for which the uterus is being removed, it may be easily drawn out by means of the forceps first applied, the surrounding tissues stripped off, and another forceps applied back of the first ones. This would be very difficult, sometimes impossible, with the ligature. The mortality of this operation may perhaps be reduced as low or lower than that of ordinary ovariectomy. It is certainly an easier operation than ovariectomy with adhesions. The hemostatic forceps have indeed changed a very formidable operation to a very simple one.

Retroverting or inverting the uterus through the opening posterior or anterior to the uterus and bringing the fundus into the vagina is objectionable. First, some of the contents of the uterus may get into the peritoneal cavity and make trouble. Second, the body of the uterus in the vagina fills it so full as to leave very little space in which to complete the operation. It will always be well, however, as a precaution against infection of the abdomen from the malignant disease, to tampon the uterine canal with cotton and close the os externum with a suture, so that if it become necessary to retrovert or antevert the uterus nothing can get out. Iodoform gauze was used as a vaginal tampon in

this case; when removed in twenty-four hours, it was found to be fetid, and therefore seemed rather an element of danger than of safety. It also interfered with drainage. If used at all, it should be placed between the forceps and the vesico-vaginal septum, where it would not be so liable to obstruct drainage as if placed between the forceps and the recto-vaginal wall. It would always seem desirable to close the peritoneal edges of the wound with lock-forceps, as was done in this case. They did not close the wound enough to prevent drainage, and they do protect the patient against the danger of protrusion of abdominal viscera in case of severe retching, vomiting, or coughing.

DR. H. T. BYFORD.—I cannot agree with the last speaker that iodoform gauze interferes with drainage and favors decomposition. As the vagina cannot well be douched during the first few days, the secretions must accumulate until forced or drawn up through the vaginal entrance which, in the dorsal decubitus, is the highest end of the vaginal canal. By placing a small roll of iodoform gauze well up against the stumps (drawn down by the ligatures), and then stuffing in a long narrow strip so as to fill the vaginal canal loosely, and extend out to a dry piece of gauze between the labia, we can drain off the fluid portion of the exudations by capillary drainage, promote hemostasis, prevent prolapse of the intestines, support the base of the bladder, and keep the stumps stationary until an exudate has fixed them and closed the peritoneal cavity.

As to the advantage of the forceps in enabling us to remove more of the broad ligaments, I think that the less of the broad ligament removed the better. If the disease has extended into the ligament, the operation should not be performed. I think that the proposed combination of the abdominal and vaginal methods by the application of the hemostatic forceps from the vagina is more complicated, more difficult, and more dangerous than supra-vaginal amputation or abdominal hysterectomy. Hemostasis can be secured without it. In case the cervix must, on account of disease, be removed with the uterus through the abdomen, then the forceps might be applied from below, but the mortality would, in the nature of the case, be greater than that of vaginal hysterectomy or supra-vaginal amputation.

In answer to the criticism that a high amputation of the cervix would have been preferable, I will say that the cervical wall was so deeply invaded that the cul-de-sac would have necessarily been opened. Had it not been opened, there was not enough vaginal wall to cover the raw surfaces, and the hemorrhage that would have occurred, and the suppuration afterward, whether the cautery had been applied or not, would have been much more liable to kill this feeble patient than hysterectomy. The septicemic symptoms disappeared in a day, and the anemia is daily diminishing. In some cases, vaginal hysterectomy is the safer operation.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

---

*Meeting of June 20th, 1887.*

*The President, GUSTAV ZINKE, M.D., in the Chair.*

---

### FIBROID TUMOR OF THE VESTIBULE.

DR. WM. H. TAYLOR showed a unique specimen consisting of a tumor about the size of a small peach and perfectly round, which he had removed from a nulliparous married woman about 25 years of age. The growth, not attached to the labia or prepuce, was situated in the vestibule and pushed the urethra to one side. It was enucleated without difficulty. The tumor had been gradually developing during the last three years, but grew with increased rapidity during the last three months. The speaker called attention to the rarity of this form of tumor, and said that he had not been able to find mention of any similar case in his search of the literature, either in works on gynecology or pathological anatomy.

DR. REAMY indorsed the opinion of the reporter of the case as to the rarity of the specimen, for he did not remember to have ever seen a similar specimen, nor did he recollect any having ever been reported.

### PROLAPSUS OF THE OVARY.

DR. REAMY mentioned another singular case. A few months ago a young lady was sent to him from one of the Western States with a tumor in the vagina. On examination the growth was found to be situated just within the vaginal entrance, above the fourchette; it was ovoid in character and could easily be felt through the vagina and rectum. Along the median line there was a considerable thickening, which extended up into the pelvis. The physician who had previously attended her stated that the tumor pulsated; the speaker at first could not detect any pulsation, but upon further examination also found this to be true.

He rendered the diagnosis prolapsus of the ovary; an incision and removal afterwards verified his opinion. The arterial supply to the organ was uninterrupted and rather increased than diminished. The ovary, which was of normal size, was covered by a membrane which corresponded to the peritoneum and carried its way downward like a hernia, dividing the tissues before it in its descent, and stretching the ovarian ligament to an

enormous degree. As stated before, it was very vascular and thoroughly immovable. The position of the uterus and the other ovary was normal. After the operation the epileptoid symptoms with which the patient had been troubled entirely subsided and she made an excellent recovery.

DR. ZINKE thought the interesting point in the case was the question how the ovary descended. Since there was no evidence of an inflammatory process to explain descent and fixation of the ovary, the only remaining plausible theory was left that the elongation of the ligament was congenital, and the epileptoid symptoms were due to reflex action caused by pressure upon the hyperemic organ when this young person was compelled to sit down.

DR. ILLOWY replied that this explanation of the origin of the prolapsus was ingenious, but he not see the necessity of invoking a congenital cause in the absence of any proof. Various other abdominal organs may prolapse or become displaced, as the liver, kidney, spleen, etc.—a fact well known. If this be possible for these organs, why may not the same cause answer for the ovaries, especially since the ovarian ligament is capable of considerable lengthening?

#### A CASE OF OÖPHORECTOMY FOR EPILEPSY.

DR. REAMY also reported a case of oöphorectomy. This patient, a young woman from Lexington, Ky., had suffered from constant headache and epileptic attacks. She had been treated by various physicians without obtaining any relief. After the removal of the ovaries from this patient, the headache ceased, the epileptic attacks did not re-appear, and the anxious vacant stare of the countenance entirely disappeared.

The speaker regretted to state, however, that in another case reported some time ago, the removal of both ovaries caused no improvement in the nervous symptoms. He had operated in all, for this purpose, on six women. One of the most singular of these was the following case: A young married woman had been suffering two or three years from pain in the right side, accompanied with occasional distentions. After she had been seen by several distinguished neurologists, and no remedy except removal of the ovaries could afford any promise of relief, the friends of the lady wanted oöphorectomy performed. A careful examination revealed a little more fulness on the affected side, in the region of the tube, than normal; the diagnosis was made of probable hydro-salpinx. The patient finally consented to the operation. When the incision was made and the uterine appendages examined, they were found to be perfectly normal, but on the opposite side the ovary and tube were degenerated. These were removed, and the patient made a slow convalescence, owing to the formation of a stitch-hole abscess, which, however, eventually healed. The patient now complained of the soreness being on the left side instead of the right, and for

some time there was no improvement. Finally, however, she gradually improved and a recent letter states that she is now perfectly well. All of the other cases have also become perfectly restored to health with the exception of the one mentioned.

DR. PALMER, in this connection, spoke of a case in which he removed the ovaries in a woman of 30, on account of long-continued attacks of hystero-epilepsy. She had been an invalid for years and bed-fast for nearly a year. The improvement was rapid and very marked. No severe attacks recurred; only an occasional attack of *petit mal*, once in a few weeks, was noticed. She gained in flesh, strength and spirits, and has become a helping woman.

He had removed the ovaries for fibroids, for persistent and otherwise uncontrollable pain, as well as for nervous disorders. For manifest reasons, oöphorectomy is a more serious operation when practised to stop menstruation and cause shrinking of fibroid tumors than for any other condition.

DR. E. W. MITCHELL said that the case reported by Dr. Reamy, in which the removal of the ovaries was not followed by an abatement of the nervous symptoms, and hence proved a failure, was nevertheless one of great interest, and as the speaker had had her under observation for about four years he would report the case more fully. Her present age was 27; she had been troubled with severe dysmenorrhea and terrible attacks of hystero-epilepsy, during which she became maniacal and was hard to control. For the last year previous to the operation, which was performed about six or eight months ago, she failed quite rapidly; she had several severe hemorrhages, violent epistaxis, and her appetite failed completely. The operation was undertaken as a last resort. She endured it well and for a time the nervous symptoms seemed to be much better. For six or eight weeks, she had no further attacks of hystero-epilepsy, but she gained no strength. After a few days, she suffered a severe metrorrhagia, which continued for three or four weeks and could not be controlled by ergot and other hemostatics. Afterwards purpura hemorrhagica developed and she began to spit up blood. Her present condition is therefore deplorable. The speaker was of the opinion that, if an operation had been resorted to earlier, she might have been cured.

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

*Wednesday, December 7th, 1887.*

JOHN WILLIAMS, M.D., *President, in the Chair.*

DR. GRAILY HEWITT showed a specimen of

COLUMNAR EPITHELIOMA OF THE CERVIX UTERI

which he had removed by the *écraseur*.

G. M. BLUETT exhibited a specimen of

INSERTIO FUNIS VELAMENTOSA.

The cord was attached to the membranes about four inches from the nearest edge of the placenta.

A report was read on several tumors that had been shown to the Society.

DR. JOHN WILLIAMS' specimen was a pure fibroma, Mr. MEREDITH's was a fibro-myoma, and Mr. MALCOLM's appeared to be a fibroma of the "youngest" type, including very new connective tissue.

DR. HERMAN read

A CASE OF ECLAMPSIA OF PREGNANCY WITH OBSERVATIONS ON THE  
STATE OF THE RENAL FUNCTION.

The author relates a case of eclampsia coming on about the end of the seventh month of pregnancy. The patient recovered from the eclampsia, and the pregnancy continued for a fortnight afterwards, when labor spontaneously came on, and a living child was born. During the lying-in period, the patient twice had an erythematous rash, but except for this convalescence was undisturbed. The temperature during the eclampsia did not exceed 100°. The urine was daily collected, and examined quantitatively throughout. During the seizures, it was small in quantity, of high density, but with a low percentage of urea, and containing much albumin. As the eclamptic seizures and the stupor following them passed off, first the percentage of urea rose, and then the quantity of urine and of total urinary solids ascended to the normal, and the quantity of albumin diminished. But the albuminuria did not disappear until after delivery; it sank from one-fifth before delivery to a trace on the third day after delivery, and disappeared on the sixteenth day. A slight increase in the albuminuria coincided with the erythema. The



albumin was mainly paraglobulin. The author thought that the facts of the case tended to show that the disturbance in the renal function was due to altered pressure in the vessels, rather than to changes in the renal cells. The eclamptic symptoms subsided when only slight improvement in the renal function had taken place, which showed how large a margin of safety there was in the conditions under which the kidneys ordinarily worked.

In an appendix, Dr. Herman communicated another case which showed a similar alteration in the renal function, viz., during the eclamptic period a great decrease in the excretion of urea, not only absolute, but relative to the quantity of the urine and its specific gravity, the excretion of urea rapidly rising after the eclamptic symptoms had passed off.

Dr. Herman next read

#### A CASE OF BRIGHT'S DISEASE DURING PREGNANCY.

The author describes a case of Bright's disease, manifested by edema, headache, and albuminuric retinitis, occurring in pregnancy, and treated by the induction of labor in the eighth month of pregnancy, about seven weeks after the commencement of symptoms. The excretion of urea daily was measured during the weeks preceding and following delivery. The author compared the ascertained excretion of urea in this case with that in a case of eclampsia previously communicated by him to the Society, and showed that, in the case of Bright's disease without eclampsia, the amount of urea excreted, although below the normal, and below the amount excreted by the eclamptic patient after the disappearance of the eclamptic symptoms, was yet considerably larger than the amount excreted by the eclamptic patient at the time the symptoms of eclampsia were present. The author said that the view that "eclampsia is due to deficient excretion of urea, and the occurrence of eclampsia in a woman suffering from Bright's disease depends on the amount of urea excreted," was not a novel one. But it rested on inference, and had been little, if at all, supported by direct observation, because it was seldom that the opportunity occurred in circumstances favorable for accurate observation. These cases were evidence in support of that view. The author also called attention to the resemblance between the two cases in respect of the facts that the excretion of urea was larger during pregnancy than during the lying-in period, and that rapid diminution in the amount of albumin present in the urine followed delivery. He also drew attention to the different kinds of albumin present in the two cases; in the case of eclampsia (coming on in a subject who appeared to be previously healthy, and ending in complete recovery), the albumin was mainly paraglobulin; in the case of Bright's disease, there was a copious precipitate of serum albumin, but very little paraglobulin. This was in accordance with

the views of Ralfe and of Maguire. In the case now reported, the Bright's disease was still present three months after delivery.

DR. GALABIN thought that much light might be thrown by careful observations, such as Dr. Herman's, on the obscure points in the relation of puerperal convulsions to albuminuria.

His own observations were in favor of the view that an essential element in the pathology of most cases of eclampsia is a poisoning of the nerve centres by the retention of products, not necessarily urea, through defective excreting power in the kidneys. Urea had been injected into the circulation of animals without ill effect; and in uric acid we had an example of a product much more scanty than urea, but capable, in the human subject, of producing more ill effects. Possibly there might be some still more poisonous substance among those present, in very small quantity, and now classed as extractives, the excretion of which failed when that of urea failed. He did not know what vascular condition of the kidneys Dr. Herman considered it to be which produced scanty excretion of water, and was the cause of eclampsia. The only vascular condition which could produce such an effect would be one of low pressure and anemia. He thought there was evidence to show that, in many, if not all cases of eclampsia, the secreting cells of the kidneys were affected as well as the circulation. 1st, in fetal cases he had always found alteration of the cells evident on microscopic examination. 2d, although in many cases the albuminuria disappeared rapidly after delivery, this was not universally true. In about one-fourth of the cases, he found that, although the proportion of albumin rapidly diminished, yet a little remained so long as the patient was under observation. In one case, he had found it persist nearly two years after eclampsia in a first pregnancy, yet the patient had recovered perfectly, and went through subsequent labors without either albuminuria or eclampsia. It appeared that, in some cases, eclampsia was associated with Bright's disease, somewhat chronic in its after-effects, but not necessarily incurable.

DR. GRAILY HEWITT thought the remarkable frequency with which primiparae suffered from eclampsia indicated that extreme tension of the abdominal contents in first pregnancies was an important factor. He had observed good results follow placing the patient so as to take off pressure of the uterus from the spinal region, and by procuring copious watery stools by means of compound jalap powder. Dr. Braxton Hicks had observed that sometimes albuminuria occurred first after the onset of eclampsia. Was it not probable that this albuminuria was the result of intra-abdominal tension from the spasmodic action of the abdominal muscles? He mentioned a case in which eclampsia occurred first after labor and ended fatally. One kidney was found the size of a walnut, and the other much diseased.

DR. CLEVELAND thought that, in puerperal eclampsia connected with defective elimination of urea, some decomposition of the urea took place before its toxic effect on the nervous system was manifested. In uremic coma, such decomposition was evidenced by the urinous or ammoniacal odor of the breath. He thought it of more importance to note the deficiency of urea than the pres-

ence of albumin in the urine. He would have liked some explanation of the mode in which pressure on the kidneys is said to produce eclampsia in primiparæ. He thought that, in some cases, there was sudden congestion of the organ which impaired its eliminating function, and produced albumin in the urine.

DR. HANDFIELD JONES thought that the disturbance of the renal function in eclampsia was often due to changes in the circulation of the kidney. He had met with a case in which normal urine was passed by the patient half an hour before delivery, and within three hours puerperal convulsions manifested themselves, and bloody urine was passed, the urine becoming almost solid on boiling. This appeared to be due to vaso-motor disturbance, such as is met with in other regions.

MR. JACOMB HOOD narrated two cases which he had seen lately. In the first, the urine, before delivery, contained five-eighths albumin, and there was much edema of the legs and abdomen. Labor was induced, and the patient did well until the sixth day, when she had convulsions for three and a half hours. Only a trace of albumin was found afterwards, and the patient was convalescent on the fourteenth day. In the second case, after the patient had been twelve hours in labor, blindness was complained of, and five minutes later strong convulsions ensued. The patient was delivered with forceps under chloroform, and after this there were six convulsions, and the patient did not recover consciousness for four hours after delivery. Her urine was drawn off and contained one-fifth albumin. On the fifth day after delivery there were three more convulsions, and the temperature rose to 101°. She was treated by free purgation and sweating, the latter by means of warm pack and pilocarpine. The albumin disappeared the day after delivery, but reappeared on the fifth day after the convulsions. The sight gradually returned, and the patient was convalescent on the fifteenth day.

DR. BOXALL said that, in the majority, if not all, of the fatal cases of puerperal eclampsia which had come under his notice, the cortical portion of the kidney, if not diminished in area, was pale and anemic, whereas the pyramids were congested, swollen, and standing up above the general surface of the section, and it seemed probable that the engorged blood-vessels of the pyramids lying between the tubules may exert pressure from outside to such an extent as to diminish the lumen of the straight or collecting tubules, and so prevent the free outward flow of fluid formed in the cortical portion, just as inflammation of the nipple offers an impediment to the escape of milk from the breast. He thought that congestion of the pyramids, in association with anemia of the cortical portion, would appear to be sufficient to produce the variations observed in the urine.

DR. PARAMORE thought that an impressionable nervous system was generally present in cases of eclampsia, which occurred so frequently in primiparæ and often when in excellent health. For this reason, he considered chloral and bromide of potassium invaluable drugs in these cases.

DR. HERMAN (in reply) agreed with Dr. Hewitt that we much needed information as to the typical course of puerperal eclampsia. This disease was so very acute, running its course within forty-eight hours, that extremely frequent observations were necessary in order to get a true picture of the phenomena.

Eclampsia was not a common disease, and most cases could only be observed at the patient's homes, where very detailed and frequent record was impracticable. But for this consideration, he should have waited till he could bring forward a larger number of cases.

He did not attach so much weight as Dr. Galabin did to the objections made to the uremic theory of the disease. Experiments on animals in which urea was injected into the blood without harm following he did not think conclusive, because the animals had healthy kidneys and could excrete the urea. He did not think that increased pressure within the abdomen was the sole causal condition, but he thought that the greater frequency of eclampsia in first pregnancies and at the end of pregnancy rendered it probable that pressure was one of the causal conditions, and this view was supported by the rapid diminution in the amount of albumin which almost always quickly followed delivery. Even if albuminuria persisted, there was almost always a drop in the amount of the albumin. If the views of Ralfe and of Maguire as to the significance of the presence of paraglobulin and serum albumin, respectively, in the urine should be shown by observation in a large number of cases to hold good, they would prove of great value in prognosis.

He did not think that all cases of eclampsia were alike, for on post-mortem examination the renal changes met with were of the most various kinds—acute nephritis, large white kidney, granular kidney, dilatation of ureters and pelvis of kidney were each met with, and in some cases there was no naked-eye appearance of kidney disease.

---

## REVIEW.

---

THE PATHOLOGY OF INTRAUTERINE DEATH. By WILLIAM O. PREISTLEY, M.D., F.R.C.P., LL.D., Consulting Physician to King's College Hospital; and late Professor of Obstetric Medicine, King's College. 8vo, pp. 190, 17 woodcuts and 3 colored plates. J. & A. Churchill, London, 1887.

These, the Lumleian lectures for 1887, form an interesting resumé of an important subject, written after a careful study of all of its attainable though widely scattered literature, and equally careful personal investigations.

The work is divided into two main divisions; the first taking up the consideration of those causes of intrauterine death more particularly referable to some morbid condition of one or both parents, and the second the pathology of the fetal appendages.

Many references are appended, in the hope that they may be of use to future workers in the same field.

## ABSTRACTS.

---

**1. Kleinwächter : The Enucleation of Uterine Myomata** (Reprint from *Wiener Med. Presse*, No. 42, 1887).—In this paper, removal of myomata *pervaginam* is considered. The indications for resort to this method in preference to one or another of the methods after laparotomy are stated to be: In case of cervical myomata, and of sub-mucous or interstitial growths which project in part into the vagina, and where the size is not too great to constitute of itself an obstacle to enucleation by this route. The unfavorable results formerly obtained from enucleation by the vagina are considered due to the fact that one or another of the following conditions were violated: The tumor was too large to be enucleated without considerable effort; the tumor, especially when interstitial, did not project sufficiently into the uterine cavity; that is to say, the capsule was thinner towards the peritoneal layer of the uterus than towards the mucous layer. The operation was resorted to in the presence of only slight dilatation of the cervix, or immediately followed upon operative enucleation. Where the tumor is not too large, is covered by a thin mucous layer, and the cervix is dilated, K. believes that enucleation *pervaginam* is of good prognosis. In certain instances, further, the operator is able to materially better the prognosis. Such are the cases where there exists a tendency to spontaneous expulsion; that is to say, where uterine contractions are present. Here the long-continued administration of ergot assists the efforts of nature, the cervix dilating, and the tumor becoming more accessible. Enucleation at separate sittings is condemned as simply a method of courting sepsis. In regard to the statistics of vaginal enucleation, Lomer, in 1881, collected 130 cases, with a mortality of 18. K. has collected 17 additional cases, and the mortality from the 147 is 22 (14.96%). He believes that were the cases sifted from this number where enucleation by the vagina should not have been attempted, the mortality rate would have been far lower. He records two successful personal cases.

**2. Sonnenberger : The Pathogeny and Therapy of Whooping Cough** (*Deutsch. Med. Woch.*, No. 14, 1887).—S. has tested antipyrin in 70 cases, administering .01 to infants, and .5 to 1 gm. to children and adults three times daily, and he reaches the following conclusions: When administered at the beginning the affection runs a mild course of from three to five weeks, the paroxysms being limited to from six to seven in the twenty-four hours. When given in the later stages, the paroxysms at once become less severe, after a few days less frequent. The general state of the child improves, and he has never noted collapse from the use of the drug.

**3. Hugo Sachs : Investigations in Regard to the Processus Vaginalis Peritonei as a predisposing Cause of Inguinal Hernia** (Abstract in *Cent. f. Kinderheilkunde*, No. 18, 1887).—The following are the



main results of these investigations: The open or not entirely closed processus vaginalis constitutes a pre-existing hernial sac; its entrance is ordinarily closed by a species of valve, the size of the opening is generally greater in boys on the right side than on the left, whilst in girls no such difference obtains; the obliteration of the processus vaginalis depends on the development of granulations which begins in the middle third of the portio funicularis, and hence spreads more rapidly downwards than upwards; after its obliteration the processus disappears without leaving a recognizable trace; obliteration occurs generally within the ten to twenty days following on delivery; the diverticulum of Nuck, on the contrary, has ordinarily disappeared at birth, the processus, even as Nuck's diverticulum, is more frequently patent on the right than on the left side; it is very probable that the processus vaginalis is in children the most essential predisposing cause of hernia; there are no anatomical grounds on which the acquired can be differentiated from the congenital inguinal herniæ.

**4. Chrobak: Contribution to the Treatment of Carcinoma of the Uterus** (*Wiener Medicin. Woch.*, No. 45, 1887).—That class of cases is considered where a radical operation is out of the question, and where palliation of the symptoms is all that is possible. C. advocates repeated curetting and cauterization as the best means for prolonging life and rendering it endurable. He has thus been able in two instances to keep his patients in good condition for over two years and in one over four. In one of these cases he curetted and cauterized eleven times. He reports two cases in this paper as proof of what may be accomplished. In the first case the patient was aged 55, had reached the menopause at 43, and consulted him on account of hemorrhage and discharge. On examination, the cul-de-sac and the senile cervix were covered with friable, readily bleeding masses. He curetted and cauterized with nitric acid in the spring of 1882. Three and three-quarter years later, she consulted him again on account of pain in the abdomen, and he found a hydrometra which had resulted from the atresia of the uterus following on the operation. He punctured, giving exit to one-third of a litre of fluid. In a few months she returned again with a similar condition, only more exaggerated. An incision was made into the uterus per vaginam, the fluid evacuated and the uterus washed out, and then the vaginal mucous membrane was united to the cervical, so as to insure patency for the future. In January, 1887, C. for the first time determined recurrence of the carcinoma. The second case concerns a woman of 32, with epithelioma of the cervix extending to the cul-de-sac. In January, 1884, C. removed a deep wedge-shaped portion from the anterior lip, and nearly two-thirds from the posterior, after having thoroughly curetted the masses in the vagina and applied fuming nitric acid. In the spring the disease had recurred on the posterior lip and vagina. In November this was thoroughly curetted and cauterized. In May, 1887, there was no recurrence. In other instances, C. states that he has witnessed similar good results from bringing the curetted surfaces together by suture.



**5. Kleinwächter: Contribution to the Subject of Blood-Cysts Occurring in the Peritoneal Cavity** (Reprint from *Prag. med. Woch.*, No. 45).—A case is reported of interest for a number of reasons. The essentials are: Woman aged 24, two normal labors, a third terminated by perforation necessitated by the prolapse of a tumor in front of fetal head. When K. examined her, he found a tumor to the right of the uterus, non-fluctuating, the size of a fist, very movable; the right ovary could be readily felt, the left not. The diagnosis was left open, although the tumor was supposed to be the left ovary. Laparotomy was performed and the tumor readily removed. It was not ovarian; examination of the tumor showed its walls to consist of connective tissue, and its contents to be blood clots in various stages of organization. As to the etiology of this blood cyst, it was proved not to be ovarian, in the first place since it contained no ovarian tissue, and secondly since both ovaries had been found. Possibly the cyst was in some way connected with an attack of pelvic peritonitis, from which the woman had suffered six years before. K. was unable to find an analogous case on record. It resembled most closely a mesenteric cyst, but this it could not be, since it had no connection with the mesentery. The great movability of the cyst, and the fact that its inner surface had no epithelial lining are points in which it resembles a mesenteric cyst. K.'s specimen, he concludes, approximated closely an omental cyst, such as have been recorded by Gardner, Bantock, and Thornton. The case is further of special interest from an obstetrical standpoint, in that it is the only one of the kind on record, which by filling the pelvis necessitated perforation of the fetus.

**6. Bruehl: The Induction of Premature Labor by means of the Constant Current** (*Archiv f. Gyn.*, XXX., 1).—Seven cases are recorded where galvanism was tested for the purpose of inducing labor. The following are the general deductions: In none of the cases was the method alone sufficient for the purpose, and in three it had no effect at all. The protracted galvanization of the uterus seemed to irritate it to such a degree that it responded less readily to the other means of inducing labor. The indication for the use of galvanism for this purpose is deemed to be a very narrow one. Since, however, the current will frequently cause dilatation of the cervix, it may be of value in those rather infrequent cases, where the insertion of bougies, etc., is difficult, but then only as an adjuvant. As soon as sufficient dilatation has been secured to allow of resort to other measures, then the galvanization should be discontinued.

**7. Link: A Case of Multiple Intrauterine Fractures of the Bones** (*Arch. f. Gyn.*, XXX., 2).—The reported case is of special interest, seeing that only eleven analogous ones are on record. The usual etiological factors (rickets, congenital syphilis, chronic parenchymatous ostitis) could be excluded, and the conclusion reached is that multiple fractures, associated with lack of development of the bone structures in general, are dependent upon some undescribed intrauterine fetal disease of the bones.

**8. Doederlein : The Conservative Section by Relative Indication** (*Arch. f. Gyn.*, XXX., 2).—D. records a successful case where, in the presence of a uniformly contracted, flattened pelvis of high degree, he preferred the Cesarean section to a perforation of the living child, which was the sole alternative.

**9. Hofmeier : Three Successful Cases of Cesarean Section** (*Zeitschrift f. Geb. u. Gyn.*, XIV., 1).—The indications for resort to the section were in two instances deformed pelvis, and in the third a myoma in the upper third of the cervix. In the former, the uterine suture was employed; in the latter, the Porro operation was performed.

**10. Ernst Cohn : Amenorrhea in Connection with Diabetes Mellitus and Insipidus** (*Zeitschrift f. Geb. u. Gyn.*, XIV., 1).—In 1883, Hofmeister reported an instance of atrophy of the ovaries secondary to diabetes mellitus, and this is the only case of the kind which C. has been able to find on record. In this paper, the histories of four patients are given where amenorrhea accompanied diabetes. This diabetic amenorrhea finds its analogue in the impotence of the male following on the same affection. It probably is a result of the general depreciation of the organism which is associated with diabetes, even as amenorrhea is also present in the phthisical. In one of the reported cases, there was present diabetes insipidus, and the patient was also syphilitic, which disease was probably an etiological factor of both the diabetes and the premature menopause.

**11. M. Graefe : A Case of Lipoma (Subserous) of the Labium Majus** (*Zeitschrift f. Geb. u. Gyn.*, XIV., 1).—This is one of the rarer forms of new-growths of the labia majora, only three having been recorded. The special interest of the present case depends on the fact that the history and physical examination suggested a labial hernia, and further on the fact that the lipoma was subserous, and in its growth had followed a similar route to that pursued by a labial hernia.

**12. Koetschau : A Case of Genital Tuberculosis (Primary Tuberculosis of the Tubes)** (*Arch. f. Gyn.*, XXXI., 2).—Instances of primary tuberculosis of the tubes have been but seldom recorded. K. reports the case in detail, the autopsy and microscopical examination proving that the tubercular process began in the ampulla of the right tube. The diagnosis, as in nearly all the reported cases, was not made *intra vitam*.

**13. Lebedeff : Cesarean Section or Craniotomy where the Fetus is Living?** (*Arch. f. Gyn.*, XXXI., 2).—The excellent results yielded by early resort to the modern method of performing the Cesarean section bring the above question strongly into the foreground. L. answers it by favoring the Cesarean section in every instance where the fetus is living, even though, by diminishing the size of the fetus, delivery may be readily accomplished by the natural passages. He reports two instances where he successfully performed the Cesarean section under relative indications. In the one, the chief pelvic measurements were: Spines,

24 cm.; crests, 24.75 cm.; external conjugate, 16.5 cm.; true conjugate, 8 cm. In the other; Crest, 24 cm.; spines, 21 cm.; external conjugate, 15.5 cm.; true conjugate, 8 cm.

**14. Barnes: The Causes, Internal and External, of Puerperal Fever** (*Brit. Med. Jour.*).—The simplest forms of puerperal fever arise from deficient gland excretion, and are due to the accumulation of waste material in the blood. They are purely autogenetic; endo-septic.

In another set, the noxious matter is not strictly formed in the body, but is still manufactured by the patient (from decomposition of animal tissue in any part of the parturient canal). A most powerful predisposing cause is hemorrhage, as it increases enormously the activity of absorption. With the hemorrhage may be associated a relaxed state of the uterus. These forms, which include some of the cases described as septicemia, sapremia, and putrid fever, may be called auto-septic.

In a third class, exoseptic, the empoisonment comes from foreign sources, brought by the physician, nurse, linen, or other external media, and includes the cadaveric poisons and the poisons of the so-called zymotics. The specific zymotic poison received and developed in the nursery ground of the puerperal blood is modified, and undergoes a form of metabolism.

The relation of puerperal fever to zymotic fevers in general is graphically demonstrated by means of two sets of tables: the first showing the mean curves of the general temperature and rainfall, the deaths from scarlatina, erysipelas, fevers in general, and puerperal fever during the thirty years from 1845 to 1874, and the second the same for the ten years following (1875-'84). The comparison of these curves is particularly interesting and instructive, as the separate histories of ten years can be studied in parallel with the history of the preceding thirty years. The similarity of the curves is most remarkable, and affords strong evidence of the uniform prevalence of like causes. The tables also illustrate a fact that has been widely recognized, that zymotics are most fatal in the winter. The author speaks particularly of this one fact in connection with puerperal fever, and attributes it in great measure to the prevalence of faulty methods of ventilation, which draw damp, foul air to the sick-room from basement, cellar, or closet; all places where sewage contamination is likely.

Prophylaxis consists in preventing both poisoning from without and the absorption of peccant material generated in the patient's genital tract. The main factor in this latter defense is complete uterine contraction, which should be secured after every labor by the use of a firm binder and the administration of ecbolics, as quinine, cinnamon, nux vomica, ergot, and digitalis. The uterine douche is valuable, but should not be used unless there are indications that septic absorption is going on in the uterus.

**15. Doederlein: Researches into the Occurrence of Germs in the Discharges from the Uterus and the Vagina during the Puerperium** (*Archiv f. Gyn.*, XXXI., 3).—The following conclusions are de-

duced from careful experimental research: Under normal conditions, the discharges from the uterus contain no germs. Under similar conditions, the discharges from the vagina contain germs of the most varied sorts. The discharges from the uterus may, in any manner and amount, be injected without reaction into animals, whilst those from the vagina may cause infection, producing abscesses. The presence of germs, of whatever sort, in the puerperal uterus, causes, as a rule, elevation of temperature; and on fall of temperature the discharges from the uterus become again free from germs. The disappearance of these germs is accompanied by increased production and discharge of pus-corpuscles. Even before the rise of temperature, germs may be found in the uterus. We must therefore assume a certain incubation period. Uterine discharges containing germs cause symptoms of infection in animals. Only when these discharges contain but few germs and the subjective symptoms are slight may they be transferred to animals without injury to them. Apart from any internal examination, the vagina may contain pathogenic germs (self-infective). The uterine discharges of diseased puerperæ may exceptionally contain the streptococcus pyogenes. The germs may enter the uterus of themselves, aside from any examination, operation, etc., (self-infection).

**16. Zweifel: Six Additional Cases of Cesarean Section after Sanger's Method** (*Archiv f. Gyn.* XXXI., 3).—These cases are recorded in full, six living children; one maternal death.

**17. Strauch: The Induction of Premature Labor** (*Archiv f. Gyn.* XXXI., 3).—The tendency towards the substitution of the Cesarean section in place of the induction of premature labor leads S. to record 28 instances of the latter operation, in order to estimate the comparative value of the one over the other. The mortality percentage of the modified Cesarean section is 11.8 per cent for the mothers, and 8 per cent for the children. The mortality in these 28 instances of the induction of premature labor is 0 per cent for the mothers, and 55 per cent for the children. The conclusion naturally reached is, that owing to the large number of children lost through resort to the induction of premature labor, the Cesarean section should be more frequently performed, where the indication is only relative.

**18. Secheyron: The Surgical Treatment of Tubercular Peritonitis. The Indications and Contra-indications** (*Nouvelles Archives d'Obstétrique et de Gynécologie*, No. 11, 1887).—From a careful analysis of forty-two instances of surgical interference in case of tubercular peritonitis, the result being four deaths, S. draws certain conclusions which are worthy of emphasis. In dealing with instances of this nature, it is to be remembered that spontaneous cure is possible, and the point to be determined is, as to when is surgical intervention is called for. Laparotomy exposes the patient to certain immediate risks, but it does not seem to at all exercise an unfavorable influence on the progress of the tubercular process. In general, surgical interference is not called for in chronic generalized tubercular peritonitis. In case the surgeon is able to determine with considerable probability the existence of a local tuber-

culosis of the uterus or the ovary, his duty is to interfere by hysterectomy or castration. In case of local tubercular pelvic peritonitis, laparotomy, according to S., is not likely to be of much benefit, nor is supravaginal extirpation of the uterus and appendages called for. The question may be briefly resumed as follows: Interference is not called for in acute or chronic peritonitis, generalized, with or without sero-purulent effusion; nor in pelvic peritonitis associated with lesions of the pelvic organs; it only remains then for the surgeon to consider the advisability of laparotomy when, during the course of a tubercular peritonitis, symptoms of strangulation or of perforation of the intestines appear; encysted tubercular peritonitis calls for surgical intervention. In this latter instance we are dealing, as it were, with a cold abscess, and there are instances on record of survival for two to three or more years after interference. It is suggested by S. that, in these cases of encysted tubercular peritonitis, evacuation of the effusion by means of an aspirator, followed by the injection of iodoform in ether, might prove as useful as laparotomy, and yet not subject the patient to such risk.

**19. Blanc: The Action of Ergotin on Involution of the Uterus** (*Annales de Gynécologie*, March, 1888).—It is a question in dispute as to whether the administration of ergot during the puerperium retards or assists the involution of the uterus. From careful observation of nearly one hundred women, to some of whom the drug was administered and to others not, B. draws the following general conclusions which are amply justified by his experiments: Ergotin administered during the first five to ten days of the puerperium, far from exerting a favorable influence on uterine involution, may interfere with the process—an assertion which is open to proof by careful external measurements combined with internal. In secondary puerperal hemorrhage the drug is efficacious, and the more so the greater the time which has elapsed since delivery.

---

## ITEMS.

---

1. Among the vice-presidents of the British Gynecological Society for 1888, elected at the annual meeting, December 14th, 1887, are Drs. WM. T. LUSK and PAUL F. MUNDÉ, of New York; and WM. GARDNER, of Montreal. This is Dr. Mundé's second term as vice-president, he having received that honor for 1886.

2. The second meeting of the German Gynecological Society will be held at Halle on the Saale, on May 24th to 26th next. An active participation by gynecologists from all parts is solicited.

THE AMERICAN  
JOURNAL OF OBSTETRICS  
AND  
DISEASES OF WOMEN AND CHILDREN.

---

---

VOL. XXI.

MAY, 1888.

No. 5.

---

---

ORIGINAL COMMUNICATIONS.

---

CERTAIN FACTS REGARDING FERTILITY, UTERO-GESTATION,  
PARTURITION, AND THE PUERPERIUM IN THE SO-  
CALLED "LOWER" OR "LABORING" CLASSES.<sup>1</sup>

---

OBSERVATIONS MADE IN THE WOMAN'S CLINIC OF THE CENTRAL DISPEN-  
SARY AND EMERGENCY HOSPITAL, WASHINGTON, D. C.

---

BY

GEORGE WOODRUFF JOHNSTON, A.M., M.D.,  
Director of the Clinic.

---

CERTAIN facts relating to conception, utero-gestation, par-  
turation, and the puerperal period, in the lives of three hundred  
and eighteen women who have recently appeared in the  
Woman's Clinic of the Central Dispensary of this city, furnish  
the basis for these remarks. There has been no selection em-  
ployed in gathering together these cases, except that they have  
been so arranged as to do away, as far as practicable, with any  
preponderating race peculiarities.

Although this paper is intended to be pertinent to the annual  
address of the President, on the subject of normal labor, which  
has just been presented, yet I do not mean to say that among  
women representing this class of society conception, utero-

<sup>1</sup> A paper read at a meeting of the Washington Obstetrical and  
Gynecological Society, held October 7th, 1887.



gestation, parturition, and the puerperal period are habitually normal, in the sense in which this term is generally understood, nor do I attempt to maintain that child-bearing life in them is free from complications, difficulties, and dangers.

In this city, as is well known to the members of the Obstetrical Society, a large proportion of the poor, during the period of reproductive activity, receive but little medical advice and less medical supervision. For a variety of reasons—the lack of proper hospital accommodations, the ignorance and prejudice which are peculiarly characteristic of our negro population, and others beside—women, during this most critical epoch, rely almost entirely upon themselves, or are guided and assisted by others neither wise nor skilful. It is safe to say that in this class, as a class, during pregnancy, confinement, and convalescence, the hygienic environment is never especially good, and the therapeutic measures which are in force may be defined as of the purely expectant kind.

In the more elevated social grades of the community, however anxious an individual is in regard to the possibility or impossibility of conception, and however neglectful of self during utero-gestation, in addition to favorable surroundings, there is always the feasibility, when occasion requires, of securing appropriate care and advice. With the well-to-do, the conduct of life during pregnancy, labor, and convalescence is very much as the individual chooses to order it. The unwritten laws which govern the habits of good society are somewhat unyielding, and make many unreasonable and unseasonable demands, yet if it is advisable and necessary, they can be set aside, and the current of pregnant and maternal existence can usually be made to flow in a manner quite undisturbed. The individual is, to a great extent, the mistress of the situation, and the incidents of child-bearing are not normal, but are varied and modified in accordance with the wilful neglect or intelligent following of the rules of health.

With the laboring classes, and especially with the abject poor, the individual does not direct affairs, nor alter at will the manner of her life. She must live as best she can, in accordance with stern realities. The every-day routine is not to be materially modified, nor new habits inaugurated, when the incident of maternity supervenes. The situation is, to a great extent, the master of the individual. Regarding the matter

from this standpoint, in the class to which the women belong who rely upon the wisecracks of their own sex, or the rare or occasional attendance of the physicians of the poor, or the outdoor clinics of charitable institutions, for counsel and relief, pregnancy and child-bed may be said to be as normal as it is possible for them to be. In a majority of cases, there may be said to be absolutely no interference. During pregnancy, medical advice, if such is obtained, is followed in a most perfunctory manner. During labor, a relation, a neighbor, or an unskilled midwife constitute the entire *entourage*. After delivery, a return, as quick as may be, to tubs and kettles. These events take place, and none of the safeguards which experience has taught us to employ enter as disturbing elements. The maternal duties are accomplished in much the same way as they are among the lower animals.

With these facts in mind, it may prove interesting to investigate certain incidents in the lives of a number of women far removed from the artificialities of polite society, who, during this period of their existence, were pretty much left to take care of themselves.

#### CONCEPTION—STERILITY.

The conditions which favor or militate against conception among the working poor are the same as obtain in other classes of society; they differ in degree and frequency, perhaps, but are the same in kind. From a study of my own cases, it would seem that absolute sterility is quite common among the laboring classes, 1 woman never having conceived in every 5 who had had sexual intercourse.<sup>1</sup>

The failure to conceive can, no doubt, in many of these cases be attributed to some defect in insemination. The influence exerted by venereal diseases in the male upon reproductive power are well known, and the wide extent to which severe, badly treated, and long-continued cases of such affections exist among the laborers in this city, especially the negroes, is a patent fact to any one who has been attached to a venereal clinic.<sup>2</sup>

<sup>1</sup> Sir J. Y. Simpson found that in the British peerage 1 marriage in every 6, and in Great Britain, generally, 1 in every 10 was unfruitful.

<sup>2</sup> Gross maintains that male sterility is the cause of every sixth case of failure to conceive with which we meet, and Kehrér asserts ("Beiträge

Age cannot enter as an etiological factor in the causation of these cases of sterility, for none were beyond either limit of child-bearing life. The average age of these barren women was twenty-three years; the married women had been married an average of five years.

In one case only did any mechanical obstacle exist to the consummation of the sexual act, and the proper entrance into the genital passages of the spermatic fluid. Here there was an area of abrasion just within the posterior commissure, which, when irritated, produced a painful reflex spasm of the muscles of the pelvic floor. The patient gave a history of repeated, very painful, and entirely unsatisfactory attempts at cohabitation, which were finally discontinued.

It is quite possible that in this class of women abnormalities in the secretion of the vaginal mucosa are very common causes of sterility. The undue license which the sexes enjoy in their association with each other offers frequent opportunities for the formation of illicit unions which are not slow in being utilized. Various inflammatory affections of the vagina are the inevitable result, which are fostered by negligence and habits of uncleanness. Vaginitis was present in one-seventh of these cases of sterility. Again it is well known that indiscriminate sexual intercourse, ven when no venereal disease is present, predisposes to sterility, and while none of the patients in this category were confessedly prostitutes, yet in many cases sexual intercourse had not been maintained with one individual only.

Certain other conditions, which are generally considered to be unfavorable to impregnation, were present alone or in combination in a number of my cases. These cannot, however, be considered as in any way peculiar to the women of the poorer classes, and may be rapidly dismissed, nor need their significance be at present discussed. Thus we find many instances in which the cervical canal was not patulous; in which the uterus occupied some abnormal position; or in which there was a morbid state of the endometrium.<sup>1</sup>

Fibro-myomatous tumors of the uterus are to be reckoned as zur klinischen and experimentellen Geburtskunde und Gynäkologie," 1888) that in one-third of all sterile marriages the husband is to blame.

<sup>1</sup> Ante flexion was observed in one-third; anteversion in one-twenty-seventh; right latero-flexion in one-fifty-fifth; retroflexion in one-fourteenth of these cases.

causes of sterility in the class of cases with which we are now dealing. In Southern cities, where the negro population is large, this factor is, of course, an important one. My own dispensary practice has shown me that of every five barren negro women, three have fibro-myomatous tumors of the uterus. In the present group of cases, in which the whites about equal the blacks, fibro-myomata were present in one-sixth of the total number. Once a fibro-myoma of the cervix, the size of a mandarin orange, completely blocked the cervical canal so that the passage through it of the smallest probe was impossible. The tumor was removed. The woman again came under observation about one year after the operation, and although a large sound could be introduced with ease into the uterine cavity, she had not conceived. The tumors in all the others cases were of the body of the uterus, and it is noteworthy that none were of the submucous variety.

Among the women who have so far attended my dispensary service, I have noticed a marked immunity from ovarian and tubal disease, and from the more decided forms of inflammation of the pelvic peritoneum and cellular tissue. These morbid conditions prevent the production of healthy ova and their safe passage into the uterine cavity. Moreover, as a result of inflammation of the peritoneum and cellular tissue, the uterus becomes fixed in an abnormal position. Why this immunity is enjoyed, and why the negro race, in which a large variety of predisposing and exciting causes are active, seldom show evidences of marked peri- or parametritis, or of inflammatory ovarian or tubal disease, it is difficult to state. To these points I should like to refer at greater length at some future time. For the present, suffice it to say that in the poorer classes, irrespective of color, those affections of the pelvic peritoneum and cellular tissue, of the Fallopian tubes and ovaries, which are recognized as etiological factors in the causation of sterility so far as the present series of cases tends to show, are notably absent.

In the general constitutional conditions and habits of life which appertain to women in this class of society will be found, I believe, the most common and most potent causes of sterility. Constitutional diseases pass unrecognized or untreated until they have affected the entire organism, and have seriously impaired activity of function and integrity of tissue. Among

my own cases many, especially mulattoes, exhibited evidences of scrofulous or tuberculous disease, and manifestations of advanced syphilis were not infrequently encountered. But even where no actual disease is present, there may be seen evidences of disturbed nutrition and constitutional enfeeblement. There is a marked tendency toward the accumulation of tissue of a low grade of vitality; this is particularly noticeable among women of certain races and nationalities even before maturity is reached. There is associated with this, often a direct result of it, a decided impairment or total obliteration of reproductive activity, although sexual appetite may not be interfered with. Beside all this, it is well known that a life of hard work predisposes to barrenness. Allow me to quote a few sentences from a recent article upon sterility.<sup>1</sup>

"Bees and ants teach us that, to a certain extent, a life of ease and idleness is the most favorable for reproduction, while a life of great activity predisposes to barrenness. Other things being equal, plenty of food with a life of idleness are eminently favorable to the process of generation. The race which is idle physically as well as mentally, and at the same time is well fed, is likely to prove more fertile than a race living under directly opposite circumstances."

The women of the laboring classes are far from idle; for many of them work begins in infancy and continues uninterruptedly until old age. The food supply, too, is often insufficient. The quantity may be inadequate to compensate for the demands daily made upon the organism. The quality is such that, in a given meal, there is much that is unassimilable, and but little that can be utilized by the body. There is small variety, and a predominance is given to certain articles of diet, while others, no less necessary to the well-being of the economy, find but an occasional or secondary place upon the bill of fare.

As a rule, the poor are hard worked and ill fed, and in the results of the exigencies and deprivations of their daily life are to be found, as I have said before, the most frequent and the most potent causes of sterility among them.

The lack of sexual affinity can hardly be considered as a cause of sterility in this class of women. Animal passion is in them well developed and under no very severe restraint, and

<sup>1</sup> Oliver: "Notes on Sterility." *Medical Record*, New York, 1887, xxxii., 243-245.

the associations, whether legitimate or otherwise, which are entered into between the sexes are the outcome of individual selection.

Before concluding this subject, I should like to refer briefly to a paper by Schbankow (reviewed in the *Centralbl. f. Gynäk.*, Leipzig, 1887, xi., 238) in which he discusses the question of the influence that occasional prolonged absences on the part of the husband have upon fertility in the wife. In many parts of Russia, he says, a large proportion of the male villagers (12 per cent of the population) in summer go to the cities to find employment. Women whose husbands remain at home were found to have on the average 9.2 children each, while 3.33 per cent remained sterile; those whose husbands leave home have on the average only 5.2 children each and 11 per cent were childless. The author does not consider that less frequent sexual intercourse is the main cause for this condition of things, but rather that harder labor is imposed on the wife on account of the absence of the husband, and that diseases of the sexual organs result and likewise interruptions to pregnancy. He believes that exacting physical work antagonizes the power of reproduction, that the sudden change from sexual deprivation to sexual excess is abnormal and prejudicial to maternity, and that finally syphilis and other diseases which the husbands bring back with them from the cities militate against conception and child-bearing.

#### PREGNANCY, ABORTION, PREMATURE LABOR.

Pregnancy among the lower classes seems to be attended by but few disturbances. Although one finds perversions and disorders of many functions, they rarely become severe or persistent enough to constitute actual disease. In by far the largest number of cases the pregnant woman goes about performing her duties in the usual manner until delivery takes place. As a rule she is spared many of the secondary annoyances and functional disturbances which now and again are met with during utero-gestation. Yet, with her, pregnancy is interrupted with an extraordinary degree of frequency. Expulsion of the ovum during the early days of pregnancy often passes unrecognized even among the intelligent and watchful. The number of unknown abortions among the poor is, of course, very much larger. The following facts, derived from an analy-



sis of my own cases, in regard to abortion and premature labor among the poorer classes may be of interest.

1. One of every 2.3 fertile women is delivered prematurely once or more than once. For reasons that are quite apparent, this proportion does not adequately represent the whole number of aborting women.

2. Among aborting women, one of every 6.3 has never gone to full term.

3. The number of abortions in women who have never gone to term, and in women who, beside, have been delivered at the end of utero-gestation, is about equal.

4. Of aborting women 1 in every 8.4 is single.

5. One in every 5.5 pregnancies among the poor ends prematurely.

6. There is 1 premature labor to every 9 abortions. In 8 of 16 premature labors the fetus was born dead; of the others 2 lived four days, and 1 seven days only.

7. In 1 of 196 abortions twins were delivered; in this case at five months, and thirteen hours apart.

8. The average time at which abortions take place is the fourteenth week.

9. The average age of aborting women is 26.

It is not always possible at the best of times to ascertain the cause of a given abortion. Indeed, when one is familiar with all the attendant circumstances, among a large group of causative agents, it is difficult to say which is the one predominating.

On the part of the mother, in the class of cases which we are now studying, it is probable that the general enfeeblement and debility which are the results of hard work, exposure, and deprivation, during pregnancy, are the most common predisposing causes of abortion. Certain constitutional affections, especially neglected syphilis, should likewise be mentioned.<sup>1</sup>

Six abortions occurred in 4 women with advanced syphilis; 1 had had one child, the other none; 1 aborting woman had albuminuria; 1 an acute attack of malarial fever; 1 an acute attack of articular rheumatism.

A goodly number of those who had had abortions exhibited displacements of the uterus.

<sup>1</sup> In relation to the effect of gonorrhea in producing abortion, see Kerner. *Archiv für Gynäkol.*, Bd. xxxi., Heft 2.

Thus in 114 cases the uterus was found latero-flexed once ; retroflexed and fixed twice ; retroverted once ; anteverted twice ; anteflexed fourteen times.

The large proportion of negro women who are treated in the charitable institutions of this city, and others farther south, would make it appear from statistics that uterine tumors are far more common causes of abortion than they are generally considered to be. In my own cases, there was to be found 1 woman with a fibro-myomatous tumor of the uterus in every 5.1 who had aborted. In this number the tumor originated in the cervix but once. There was, besides, a fibrous polypus of the cervix in 1 case ; a mucous polypus of the cervix in 2 ; and an epithelioma of the cervix in 1.

On the part of the male, syphilis and other constitutional diseases and debauchery are the most common indirect causes of abortion.

The majority of women attribute all cases of abortion to mechanical violence, and among the laboring classes some form of mechanical violence, as an exciting cause of abortion, is very frequently met with. The course of pregnancy may be at any moment interrupted by some accident. Falls, the lifting of heavy weights, and prolonged and arduous labor seem to be the exciting causes of most cases of abortion.

In 196 cases, abortion followed closely upon a fall in 9 ; upon the lifting of heavy beds, tubs, etc., in 43 ; and after unusually long-continued and exhausting work in 13.

The male is, no doubt, the direct cause of a large number of abortions. Animal passion is often with difficulty controlled by intelligence and a strong will. When one or both of these are absent, it is almost entirely without restraint. To ill-advised sexual intercourse during pregnancy are due many interruptions of gestation.

Among the lower classes, too, differences of opinion between husband and wife are not infrequently accompanied by some outward and visible, or rather palpable, expression of feeling. Thus, in 5 instances among my own cases, abortions followed soon after a blow or kick upon the abdomen administered in the course of a conjugal disagreement.

Emotional causes are particularly active in a class which has its emotions so little under control. Abortion in 4 cases followed fright ; in many, a fit of anger.

Perhaps among all causes of abortion in negroes, religious excitement is the most common. It would indeed be difficult to conceive a more unnatural condition of the nervous system than is present during certain of their religious ceremonies. Unfortunately, it is difficult to obtain any definite information in this regard, yet it goes without saying that such emotional crises are unfavorable to the continuance of uterogestation.

Of 196 abortions only 2 were said to have been induced. This, of course, does not represent all the cases of pregnancy that were purposely interrupted. As a rule, the larger the number of illegitimate pregnancies the larger the number of abortions; yet this is true only to a certain extent. In the class of women who attend my service at the Central Dispensary, illicit intercourse and illegitimate pregnancy are common; how common it is, of course, impossible to discover. Some approximate idea may, however, be given by saying that omitting prostitutes, 1 of every 2 fertile women admits being unmarried, and that 1 child of every 6 born is illegitimate. These facts prove that unlawful associations between the sexes in the lower classes of this city are very common. I do not believe that any great effort is made to conceal the existence of these associations. The more ignorant blacks, particularly, indulge their sexual passion quite independently of any moral restrictions, and apparently without knowing that any law, human or divine, is being transgressed. I am told by young unmarried girls, without any appearance of shame, and quite as a matter of course, that they have had children or abortions at this or that time. The fear of detection which leads many unlawfully pregnant women to desire to be rid artificially and prematurely of their offspring, is a motive which is unknown here. They would rather wait in the hope that time will in some way settle the question, than anticipate the throes of labor. And while certain abortifacients are occasionally tried, the troublesome gastro-enteritis which supervenes somewhat cools their ardor and creates the desire for a more expectant plan of treatment. Therefore, I believe, that because a strong motive and effective means are wanting, induced abortion among women of the lower classes is not so common as would generally be supposed.

Although in most of these cases of abortion the women re-

ceived scant treatment, or else no treatment at all, yet from the histories given, the symptoms seem rarely to have been serious or the complications grave.

## LABOR.

Of the 1,089 pregnancies which have previously been discussed, 893 terminated in labor at full term. At least 145 children were born out of wedlock. 149 of 263 fruitful women had children but no abortions. One woman had two children before menstruation began. No labors occurred after the menopause had been reached.

The women of the poor are in many ways well fitted to bear children. The habits of polite society, the laws of fashion, the demands of social life, all tend to unfit those in a more exalted plane for the performance of their part in the propagation of the species. Unconventionality of dress, the constitutional vigor which results from regular hours and manual labor, a daily life free from irregularity, unnaturalness, and artificiality, would seem to well equip a woman of the laboring class for the duties of child-bearing and motherhood. Yet the amount and character of the work to be done is not always proportioned to the strength of the individual; constitutional diseases, which materially affect the integrity of the procreative powers, are rife; personal hygiene is subject to great neglect, and adequate nourishment is not always chosen or obtainable. These, and many other influences, by adversely affecting the general strength or inaugurating local disease, militate against successful and uncomplicated child-bearing.

In the poor, the well-to-do, and the rich, the conditions which are prejudicial to maternity are alike present, though not always in the same degree, nor induced by the same causes.

In so far as the actual mechanism of parturition is concerned, the strength and physical conformation of the more robust of the laboring class is of material assistance.

It is commonly supposed that the women of the poor are very prolific. Under favorable circumstances I have no doubt they are. In my own cases the average number of children born of each mother was 3.2, and the number born as the result of each marriage, 4. Occasionally a woman gives birth to

a very large number of children. A patient some time since told me that she had been delivered of 23 living children. In the present list of cases there was one woman who, before the age of 40, had given birth to 17 living children at term.<sup>1</sup>

With the women of the poor who are delivered at their own homes, the hygiene of the individual and of the lying-in chamber are unquestionably bad. During the progress of labor there is but little interference. What interference there is, can hardly with justice be called assistance. The qualifications of the female who is commonly present at such ceremonies need not be dwelt upon here. I say, is commonly present. Very few of the women of the poorer classes in this city are attended in labor by a physician. Of the 893 labors which are herein spoken of, a physician was present in 30, and then, in most cases, during a part of the labor only. One of my Dispensary patients I examined before and after the birth of her fourteenth child. During this labor a physician was summoned, who came, "broke the waters," and then disappeared. After the confinement I found an aggravated stellate laceration of the cervix which was not there before.

This kind of medical attendance, or rather, lack of medical attendance, may have its advantages. Litthauer has shown that the mortality from puerperal fever in women who are attended during labor by the conventional midwife is just half as great as it is in those who are assisted by the trained and registered "Hebammen."

In my own cases, the average duration of labor was 24.9 hours. The fact that about one-third of the total number of women were primiparæ, and one-tenth of the labors first labors, goes far to explain this. In 1 case in every 28, labor was said to have lasted less than one hour, and the child was delivered after only a few pains. I believe that in

<sup>1</sup> The average number of children to a marriage in Great Britain is 5.2. Unfortunately in my own cases I cannot find noted the proportion of multiple to single births. In this connection, however, allow me to quote again from Oliver. "Twins and triplets probably indicate a higher state of reproductive activity consequent on a large supply of easily assimilable food. The Kaffir women, who live chiefly on flesh and milk, are most prolific, and give birth almost as frequently to twins as single children."

this class of cases generally labor is rapid. The often indefinable sensations which precede actual labor are by many considered and called symptoms of parturition, and to the suffering woman, the emptying of the uterus occupies an interminable length of time.

As a rule, labor is easy and uncomplicated. In my own cases the forceps were used 11 times in 893 deliveries, but it is not known in how many they would have been of service, or in what number they were employed unnecessarily. The remaining 882 labors are described as spontaneous. The proportion of "hard labors," as they are called, is very small. So far as I could ascertain, anesthetics were employed in but two cases.

Of the 893 children born at term, 20 were, or were said to be, still-born. The *penchant* that women of the poor in this city have for depositing their newly-born offspring in sewer traps, vacant lots, and upon the doorsteps of their neighbors, may account for some of these so called still-births.

Twelve labors were followed by considerable hemorrhage, and in 3 flooding was excessive, prolonged, and exhausting.

#### THE PUERPERAL PERIOD.

But little attention is paid by the women of the poorer classes to the proper conduct of the puerperal period. The hygiene, diet, and therapeutics of convalescence are deficient or bad. The one object sought by all is to get out of bed and back to work as rapidly as possible, and guided by their own sensations the getting up is apt to be premature. In the minds of many, the superstition still inheres that the bed must be kept for nine days, no more, no less. Still, household duties, the care of children, the getting of bread, and many other cogent reasons, tend to shorten the necessary period of repose. The effect upon the system of the severe strain incident to ill ordered pregnancy and neglected parturition now begins to be felt. The care and attention and judicious feeding which an exhausted body needs are wanting, and lactation makes a further draft upon the economy.

With many women in this class of society there seems to be no distinct period of convalescence. Labor supervenes as an interruption of a few hours in the routine of daily life, and after the delivery of the child is accomplished the woman returns to her usual avocations.



Four of my patients told me that immediately after the birth of the child they resumed the work with which they were busied when labor began. In one instance even the formality of going to bed was dispensed with, but stooping between two chairs, the fetus and secundines were expelled and dropped upon the floor. To another case of interest I should like to refer :

A young, unmarried negro girl, a servant in the family of a dentist in this city, at some time between 2 and 6 o'clock A.M., was delivered of a child at term in her own room, with the assistance and in the presence of no one. She carried the child down-stairs and buried it in the yard. She felt as if some foreign body was still present in the genital passages, and going to a water closet, after considerable straining, expelled the placenta. At 6 o'clock she was seen at work, and so continued all day. It being Saturday, and winter, in addition to her usual duties she carried enough coal from the cellar to the up-stairs rooms for use on that and the following day. The baby, dug up by a dog, and the marked diminution in the girl's size, were discovered almost simultaneously. She was at once sent to the Emergency Hospital, where I saw her the next morning. Except a laceration of the perineum there was nothing abnormal in her condition. Her convalescence was rapid and satisfactory.

Four patients told me that after delivery they were in the habit of desisting from work for one day only. The rather unique reason for a rapid getting up, mentioned to me on one occasion, was that the children of the individual being generally born in summer, it was then too hot to stay in bed.

Still, with the majority, convalescence does not proceed rapidly nor satisfactorily. My patients averaged 11 days in bed, which is conclusive evidence of an abnormal puerperal period. Many give a history of slowly returning strength ; a few of fever, abdominal pain and tenderness, and cessation of the milk flow ; a few of attacks of pneumonia or of pleurisy, of protracted uterine hemorrhage and mammitis. In a large majority of cases, it does not seem to have been any distinct disorder which prolonged or complicated convalescence, but simply general constitutional enfeeblement and lack of recuperative power.

The treatment of most morbid puerperal conditions consisted

in the administration of potent teas and the application of strengthening plasters.

#### LACTATION.

The number of women in the poorer classes who are unable to nurse their children is greater, I think, than would at first be supposed. The conditions of life are not favorable to lactation. Deprivation and rapidly succeeding pregnancies tend to diminish the capacity of the milk-secreting apparatus. Inflammation or abscess of the breast was present in only 1 of every 44 of my own cases, yet in 1 of every 7 the mother was able to nurse her child or children only partially or else not at all. The cause of the failure of the milk supply in by far the greatest number seems to have been anemia and debility. The quantity and quality of the food consumed during convalescence might be sufficient to give the necessary strength to the mother or the necessary amount of good milk to the child, but it cannot do both.

In many cases lactation was unduly prolonged.

#### PARTURIENT LESIONS AND DISEASES RESULTING THEREFROM.

The limit of length which I had set to these desultory remarks has already been overstepped; my concluding observations, therefore, upon the injuries and diseases of the genitalia in the women of the poor, which are the result directly or remotely of parturition, must necessarily be brief.

It would appear from the results obtained by an examination of the cases now under consideration that lacerations of the cervix uteri are encountered more frequently in this than in the well-to-do and the wealthy classes of society. This fact has already been well established by the investigations of others (Barker, Mundé). It is probable, however, that lacerations of the cervix occur less commonly, or certainly no more commonly, among the poor than among the rich.

The fact that among the poor who are delivered at their own homes there is no interference during the first stage of labor, must be an important factor in diminishing the frequency of injuries of the cervix. From the accounts of my own patients it would appear that rarely is the bag of waters ruptured artificially. Dilatation of the cervix is accomplished more thoroughly and safely, though more slowly on this account.

The more thorough the dilatation the less the probability of subsequent laceration. Yet in the poor, as all are agreed, such injuries are found more frequently than among those more comfortably situated. The discrepancy between these two statements may in part be explained by the fact that in many of those who at this time receive greater attention, in whom the wound of the cervix through cleanliness, asepsis, and rest is kept in a favorable condition, healing takes place during the period of convalescence.

The effect of prolonged labor in the causation of these lesions must also be considered. Emmet and Pallen have found that lacerations are more common after tedious labors. In the poor, therefore, where delivery is left to take its course, and the often much-needed assistance is delayed or else not rendered at all, it might reasonably be supposed that lacerations of the cervix would be more common than when labor was judiciously expedited by manual or instrumental assistance, and damaging pressure relieved.

Comparing the cases discussed in this paper with an equal number seen elsewhere who were delivered under more favorable circumstances, without the intention, however, of formulating an opinion at all general in this regard, it would seem that lacerations of the cervix uteri are found more commonly in the women of the poor than in their more fortunate sisters, but that the lesions are less in extent, more frequently follow rapid than tedious labors, are less often accompanied by reflex disturbances, and are more usually followed by a high grade of subinvolution and uterine prolapse.

Little injury seems to be done in labor to the vaginal walls and at the vaginal entrance. I have not met with a recto- or vesico-vaginal fistula since I have been connected with the Central Dispensary, that is, in nearly two years' service. During this time, I have seen not more than four lacerations involving the sphincter ani and the posterior vaginal wall, none of which were severe.

In most cases, at the first glance there is no injury apparent at the vaginal outlet. In women who have had one or but few children, the vaginal outlet looks quite normal; in those who have had many children there is generally a relaxation of the vaginal entrance and a dropping away from the pubes, although the distance externally between the posterior commis-

sure and the anus may not be diminished. In either case, there is often to be found just within the vaginal inlet and behind the posterior commissure a small depression and at its base a cicatrix. In many instances, this is not apparent until the tissues are cleansed and put upon the stretch. The cicatrix as a rule runs transversely. It is not accurately situated in the median line nor symmetrical, but runs upward and inward and is continuous with one or the other of the vaginal sulci. A cicatricial depression running in a direction parallel with the long axis of the vagina is the greatest rarity. Those lacerations involving the skin and the deeper tissues of the perineal body proper are very unusual. A central laceration of the perineum or an injury of the levator ani muscle I have not yet encountered.

There are, of course, those among the women of the poor who from injuries or diseases of the genitalia suffer all degrees of inconvenience and of pain and show evidences of resultant deterioration in general health and strength. Yet the number and variety of reflex nervous disturbances emanating from lesions of the sexual apparatus seem to increase as the individual approaches the class of more luxurious habits and weaker fibre, and the power to bear up under the depressing effects of uterine disease, seems, *pari passu*, to decrease.

It is unusual to find among the lower classes a woman incapacitated for performing her daily duties by reason of morbid conditions of the genital system, the like of which often place the well-to-do or the rich upon an invalid's bed, and defy the well-directed efforts of skilful gynecologists. All these facts are well known and receive daily confirmation.

It is marvellous to see the material and often permanent benefit in the poor which follows upon the exhibition of the simplest remedies and the institution of the crudest local procedures.

---

NOTE ON THE OCCASIONAL RELATION OF ENDOMETRITIS GRAVIDARUM TO THE PERNICIOUS VOMITING OF PREGNANCY.

---

BY

W. W. JAGGARD, M.D.,

Professor of Obstetrics, Chicago Medical College, and Obstetrician to Mercy Hospital.

---

CHRONIC decidual endometritis plays an important rôle in the modern pathology of pregnancy. Routh, Olshausen, Schroeder, Virchow, Carl Ruge, Küstner, Klotz, Donat, J. Veit, and others have abundantly demonstrated by numerous and exact researches the clinical moment of this factor in the diseases incident to gestation. J. Veit<sup>1</sup> is of the opinion that the expression endometritis decidua or decidualis is not especially happy, since the morbid state is referable to a condition in existence prior to pregnancy, and persisting afterward. He prefers, with reason, the term endometritis gravidarum.

The purpose of this note is to report a case of endometritis gravidarum, which illustrates the highly probable causal nexus sometimes existing between this condition and the pernicious vomiting of pregnancy, and the occasional occurrence of indications for the induction of abortion. While there are valid objections to the custom of reporting single cases, still examples of rare morbid conditions are always of sufficient interest to warrant the infraction of an excellent general rule. The case to which I beg to call your attention is typical, and selected from a number; but it is the only one in which it was possible to establish fully the clinical diagnosis by anatomical proof.

CASE.—Mrs. D., 29 years old, born in the United States of Irish parents; of medium stature, slight build, nervous temperament; married March 1st, 1879. November 10th, 1879, Dr. Charles Gilman Smith delivered her of an abortive ovum, corresponding to the third month. Following the miscarriage, the patient complained of constant backache and leucorrhea. She gave birth at term to living children in 1881, 1882, and 1884.

<sup>1</sup> Berliner Klinische Wochenschrift, 1887, No. 85.

Irregular uterine hemorrhages during the first half of each of these pregnancies were noted. The quantity of blood lost was small, not sufficient to confine the patient to her bed nor to require medical attention. The hemorrhages were erroneously interpreted as menstruation persisting in pregnancy.

January, 1885, she was delivered by Dr. Addison H. Foster of an abortive ovum, corresponding in size and development to the third month, while the duration of amenorrhea and presumably of pregnancy was seven months. The egg presented the familiar appearance of the fleshy mole. It was covered with a thick, rough membrane, composed of the decidua vera and reflexa, and the mass was penetrated by numerous old, discolored blood-clots. The amniotic cavity was contracted, compressed, pushed to one side away from the decidua serotina, but contained the embryo, together with a small quantity of liquor amnii. During the early months of this pregnancy, irregular bloody discharges from the uterus were observed.

During her sixth pregnancy, slight uterine hemorrhages took place at irregular intervals, but she was delivered at term, November 12th, 1886, of a living child. The infant died two months later of cholera infantum.

Dr. Foster saw the patient February 10th, 1887. She was despondent over the death of the babe, and her general health was impaired. Examination of the pelvic viscera revealed subinvolution of the uterus, a slight bilateral tear of the vaginal portion with erosions, but without ectropion, endocervicitis, and endometritis. Under appropriate treatment, she improved rapidly.

Date of last menstruation February 26th, 1887. While visiting her mother on the South Side August 3d, a bloody discharge from the uterus occurred suddenly, without pains, and in the entire absence of any apparent adequate cause. Intermittent, bloody uterine discharges, sufficient to saturate from six to eight napkins daily, continued despite the excellent treatment of Dr. John Guerin, who ordered rest in the horizontal position and the exhibition of opiates. Upon one occasion, the hemorrhage was of a bright arterial hue, coagulable, and about one-half pint in quantity.

Dr. Foster subsequently saw the case, and recommended the exhibition per os of acetate of lead and gallic acid, but the change in treatment was followed by no alteration in the symptoms, the discharge of bloody fluid continuing, and the patient growing steadily weaker. Three days after the beginning of the discharge, she complained of nausea, followed by vomiting, spontaneously and upon taking food. The vomiting soon assumed an incoercible type, and the stomach refused to tolerate either fluids or solids. In each of her former pregnancies, morning sickness was notably absent. The vomit consisted successively of food, glairy mucus, bile, and finally traces of blood. The violent efforts at retching were especially distressing, and



the consequent loss of sleep rendered the patient nervous and irritable.

August 12th, I was invited to see the case in consultation with Dr. Foster. The patient was greatly emaciated, weak, and the slightest muscular exertion was sufficient to excite a paroxysm of vomiting and retching. Temperature, 101° F., pulse 120, small and compressible. Abdominal palpation revealed pregnancy advanced to about the twentieth week, the fetus presenting by the vertex. Fetal heart-tones, normal as to force and frequency. Intermittent uterine contractions were unusually forcible and frequent, but were painless. Vaginal exploration showed the head, completely filling out the lower uterine segment, at the inlet, the vaginal portion of relatively normal form, consistence, and appearance. The tear was very slight, scarcely noticeable, no ectropion nor erosions. The cervical canal was closed, but readily passable by the finger up to the head, covered by the membranes, a distance of 3.5 centimetres. The uterine discharge was sero-sanguinolent, occasionally containing shreds of tissue, and without odor. The urine was normal.

*Diagnosis.*—Placenta previa, to which the sudden, painless character of the bloody discharges and the absence of any apparent, adequate cause pointed, could be definitively excluded by the relation of the head to the lower uterine segment, already mentioned.

Premature separation of the normally implanted after-birth was capable of highly probable exclusion, since the fetal heart-tones were normal as to force and frequency, and the characters of the uterine tumor were natural. The subsequent examination of the placenta demonstrated this opinion to have been correct.

Threatened abortion from rupture of the amnion was eliminated by the entire absence of expulsive uterine contractions, and of cervical changes, softening and dilatation, notwithstanding the persistence of the discharge for longer than one week. During the progress of the abortion, artificially induced at a later period, the amnion was observed to be intact, and upon subsequent examination only a single aperture, through which the fetus passed, was discovered.

No evidence of the hemorrhagic diathesis could be gathered, neither from the symptoms nor the history of the case. The presence of some inflammatory affection of the endometrium was thus rendered highly probable by the exclusion of the other chief factors capable of producing the symptoms. But positive data supporting this view were not wanting. The history of the case established the fact of an endometritis corporis of long standing and active immediately before conception. The discharges were sero-sanguinolent, with minute blood-clots of various ages, and sometimes shreds of decidua. Then the irregular, intermittent character of the discharges favored the opinion.

The type of inflammation seemed to be chronic catarrhal, and the diagnosis of hydrorrhœa gravidarum (Chassinat, C. Braun, C. Hennig, Hegar) was accordingly suggested.

I was disposed to regard the vomiting as reflex, and the inflammation of the endometrium as the exciting, peripheral irritant, in the entire absence of any other plausible or adequate explanation. The anemia was neither so profound nor so acute as to constitute a sufficient cause. Then the vomiting ceased at once upon the termination of pregnancy. Moreover, to attribute the hyperemesis to cerebral anemia is only to make a slight alteration in the immediate pathology, and the endometritis still remains as the first cause.

The quantity of opium exhibited from first to last was relatively small, and the vomiting continued long after the discontinuance and complete elimination of the drug.

The subject of diagnosis has been discussed at some length for the reason that sufficient attention is not usually given to the differentiation between uncontrollable vomiting in pregnancy, but sustaining no necessary relation to that state, and the form of the disorder incident to gestation. Guéniot pertinently insists upon three elements in the diagnosis, which it is necessary to bear clearly and distinctly in mind. These elements are: 1, the diagnosis of pregnancy; 2, the diagnosis of the determining or adjuvant cause of the vomiting; 3, the differential diagnosis between the obstinate vomiting due to pregnancy, and obstinate vomiting due to other causes, entirely independent of pregnancy.

It is well known that German observers see very few fatal cases of the so-called uncontrollable vomiting of pregnancy, while American, English, and French clinicians record very numerous examples. It is also a fact that the diagnostic criteria of the latter class of observers, as shown in the literature of the subject, are often very far from being either numerous or exact. I hope to be pardoned for this digression, but I speak feelingly on the subject. Only a few months since, a fatal case of alleged uncontrollable vomiting of pregnancy came under my observation, in which the first element in the diagnosis, the fact of pregnancy, had not been demonstrated.

*Treatment.*—After free evacuation of the intestinal tract, absolute rest in bed in the horizontal position, isolation of the patient, and freedom from all extraordinary sensory excitants were secured. Small quantities of peptonized milk at long intervals and dry champagne were exhibited, only to be rejected as soon as swallowed. Cocaine per os, morphine and atropine hypodermically, were apparently without effect.

Then absolute stomach-rest was maintained, and nutrient enemata were exhibited. At the same time, full doses of chloral and potassium bromide (thirty grains of the former to sixty grains of the latter) were administered every eight hours per rectum. The viscus proved tolerant, and all the food and medi-

cine exhibited per anum were retained. This plan of treatment was persisted in for the four days following.

At the expiration of the first week under my care, the patient was decidedly worse. The hyperemesis and uterine discharge continued without abatement; the patient was so weak that she could scarcely lift her head from the pillow. She was evidently in a critical state. Temperature slightly subnormal, pulse 120.

I did not make the application of a ten-per-centum solution of argentic nitrate to vaginal portion, as suggested and practised many years since by M. O. Jones, of Chicago. The omission was due to the fact that I was unable to recognize any serious morbid state of the vaginal portion. I now regret this omission. The method is a most valuable means of treatment. It has been generalized by Sims, Carl Braun, Welpouer, and others, and is, at the present time, extensively practised as an efficient, routine procedure, although, of course, largely empirical. In my own hands, the plan has commonly yielded excellent results.

Copeman's method of cervical dilatation was accidentally employed in the exclusion of placenta previa. The index finger was passed through the canal of the softened vaginal portion up to the head, covered by the membranes, with extreme ease, but without the slightest effect upon the vomiting.

I was very reluctant to interrupt pregnancy, because the force and frequency of the fetal heart-tones were perfectly normal, and because I had never encountered a case of the pernicious vomiting of pregnancy in which the therapy just outlined was not sufficient at least to palliate the symptom until its spontaneous disappearance. But the critical state of the patient, and the continuance of the uterine discharge did not seem to me to justify further expectancy, so on Aug. 19th, with the advice and consent of Dr. Foster, I determined to produce abortion under the twofold indication of the vomiting and the endometritis.

After thorough cleansing and disinfection of the vagina and lower half of the cervical canal, a sterilized, flexible bougie, No. 17 French scale, was introduced between the chorion and the anterior uterine wall to its full length. The objection has been urged against this method of the induction of abortion and premature labor, Krause's, that dangerous hemorrhage is liable to occur from detachment of the placenta.

Ahlfeld,<sup>1</sup> however, has shown that this accident is apt to take place only when the after-birth is implanted near the os internum, while Leopold<sup>2</sup> points out certain anatomical characters by which the placental site may be recognized and avoided in many cases. It is possible with a little practice to palpate the tubes through the abdominal parietes throughout their course in very many, probably the majority of cases. When the placenta is implanted against the anterior uterine wall, this region is uncommonly protuberant, while the tubes may be followed from

<sup>1</sup> "Berichte und Arbeiten," Bd. II., p. 106.

<sup>2</sup> "Der Kaiserschnitt," etc., p. 27. Stuttgart, 1888.

their origin in the median line of the fundus downward and backward. In posterior insertions of the after-birth, the tubes apparently take their origin at a point nearer to the front, and pursue a course downward and forward, while there is absence of any unusual protrusion of the anterior uterine wall.

Schauta<sup>1</sup> has suggested an excellent plan to prevent the entrance of air along with the bougie into the cavum uteri. He recommends the introduction of the instrument through a speculum, partly filled with fluid, so that the vaginal portion is completely covered with a thin layer.

Two hours after the bougie was placed, labor pains began and the bag of waters formed. Eight hours later, the amnion ruptured and a living fetus, together with the bougie, were expelled. The fetus moved its limbs, but soon expired. Body-weight, 205 grammes; length, 27 centimetres. Its head was covered with hair, and its body with lanugo. These characters indicated a probable age of five months.

The placenta, expelled by Credé's method, was of normal size, shape, and implantation, so far as the latter fact may be inferred from the site of the single perforation in the amnion through which the fetus passed. The maternal portion of the placenta was of fresh appearance, covered with the superficial, cellular layer of the decidua serotina in the form of a grayish-white membrane. The surface was entirely free from old blood-clots, and was probably adherent in a natural fashion to its uterine site until the rupture of the amnion. Microscopical examination revealed perfectly normal tissue.

The chorion læve, however, was covered all over with shreds of tissue, apparently of decidual origin, and thin laminated blood-clots. These clots were of various ages, some old and discolored, showing resorption changes, others of recent date.

Dr. Bayard Holmes examined these shreds of decidua under the microscope. His report of the pathological condition in the case under discussion is so nearly identical with Hegar's<sup>2</sup> description of hydrorrhœa gravidarum that I substitute the latter:

"The anatomical basis is a hypertrophic development of the uterine mucous membrane, accompanied by hyperemia and abundance of vessels which extends itself not alone in the interstitial tissue, but also, according to my examinations, to the glandular bodies. There is present a lively process of new cell formation, and the separate tissue parts and tissue elements possess an unusual strength and cultivation. Particularly did I find the glands in such number and size as I have indeed rarely seen them in the first months of pregnancy. One remarked therewith much less of degenerating metamorphosis of the decidua than is otherwise the case at the eighth month. May we now describe the process as a chronic inflammation, or may we prefer to speak of it as simply a hypertrophic condition of the uterine

<sup>1</sup> "Grundriss d. Operativen Geburtshilfe," p. 53. Wien, 1885.

<sup>2</sup> Monatschrift f. Geburtskunde und Frauenkrankheiten, 1863.

mucous membrane? Assuredly is it that the principal symptom of the hydrorrhœa—the increased secretion of the mucosa—finds a perfectly adequate explanation in the anatomical discoveries. The secretion is furnished pre-eminently by the glands.”

Following the evacuation of the cavum uteri, the patient fell into a refreshing sleep. When she awoke the next morning, she complained of hunger, and retained all the food she was permitted to consume. Nausea and vomiting had ceased suddenly, not to recur. The temperature returned to the normal, and the heart's action gradually became slower and more forcible.

From time to time, shreds of thickened decidua were expelled, but the lochial discharge was normal in quantity. Involution was uncommonly rapid and complete for the period of time. The patient left her bed on the fourteenth day after the abortion, and soon resumed her domestic duties. She was informed that subsequent treatment would probably be necessary, as it was not likely the endometritis would terminate spontaneously in resolution. I saw her in the following November, when she appeared remarkably well. It was recommended to her that she should consult Dr. Foster, with reference to her former condition. In a letter dated January 14th, 1888, Dr. Foster writes: “a considerable degree of subinvolution is present: the cervix, engorged, large, pouting, red, emitting light-colored glairy discharge, blood following the gentle introduction of a soft-rubber probe into the uterine cavity.” In an inveterate case of this character, after failure of less heroic measures, the mechanical removal by curettement of the diseased mucous membrane deserves consideration. Martin, Düvelius, Benicke, J. Veit, and others have shown that after cure a new endometrium of relatively normal functional activity is formed.

The notion that endometritis gravidarum is an occasional determining cause of pernicious vomiting is by no means new. Dance and Chomel have described certain morbid states of the placenta and membranes, which they regard as important etiological factors. Ebell<sup>1</sup> has asserted his belief in this causal relation before the Obstetrical and Gynecological Society of Berlin. J. Veit<sup>2</sup> has recently reported three cases in which a necessary relation between the two conditions is apparent, although the evidence is far from being demonstrative.

The history of the first case disclosed uncontrollable vomiting and unbearable gastralgia in a former pregnancy, followed by spontaneous abortion. The gastric symptoms recurring in a subsequent pregnancy, the egg, showing morbid changes in the decidua vera, was artificially removed. In the second

<sup>1</sup> L. c., p. 643.

<sup>2</sup> L. c., p. 643.

case, uncontrollable vomiting was accompanied by severe uterine hemorrhage, indicating the use of the tampon. The ovum, artificially removed, revealed characteristic alterations in the decidua serotina. The third ovum, removed on account of vomiting, was a typical example of glandular degeneration of the decidua serotina and vera. Veit's argument is briefly: 1st. Changes in the decidua constituted the only appreciable coarse lesions in connection with the genitalia in these three cases, and there was no other apparent cause present. 2d. Vomiting ceased immediately upon the removal of the ovum and the elimination of the endometritis. Of course, it cannot be denied that when the uterine cavity is emptied, other potential etiological factors are also rendered inoperative. 3d. It is a well-known fact that gastric disorders, reflex in origin, are common symptoms of endometritis in non-pregnant women.

In the case described in this note, an important link in the chain of evidence is supplied. The vomiting was aggravated *pari passu* with the advance of the inflammation of the endometrium. The facts that vomiting did not occur in former pregnancies in this case, and that in general vomiting is an infrequent symptom of hydorrhea gravidarum, do not constitute a valid objection to the theory for obvious reasons.

The case is furthermore of interest on account of the late period of the occurrence of the vomiting. The symptom, appearing for the first time as late as the sixteenth or eighteenth week after the corpus uteri had passed up into the abdominal cavity, could plainly sustain no relation whatever to any form of flexion or displacement.

Nor is the artificial induction of abortion under the indication of endometritis, in the entire absence of such a complication as vomiting, an unfamiliar, although, of course, an uncommon, procedure. J. Veit<sup>1</sup> records two cases in which the operation was considered under this indication in the absence of all others. In the one case, the operation was performed; in the other, spontaneous abortion occurred.

When the pernicious vomiting of pregnancy is symptomatic of endometritis, the induction of abortion would naturally be considered earlier and with greater favor than when the disorder is the result of other causes. Schroeder has repeatedly emphasized the folly of preventive treatment of threatened

<sup>1</sup> Zeitschrift f. Geburtshülfe u. Gynäkologie, xiii. Band, 1886, p. 388.



abortion when there is reason to believe the embryo is dead or that the ovum is hopelessly diseased, not, indeed, advising the active interruption of pregnancy, but warning against the useless protraction of the state of pregnancy by rest in bed and opiates. When the embryo is dead, or the ovum hopelessly diseased, abortion is physiological.

2330 INDIANA AVENUE.

---

## THE TREATMENT OF EXTRA-UTERINE PREGNANCY BY ELECTRICITY.

---

BY

A. BROTHERS, B.S., M.D.,

Assistant to the Vanderbilt Clinic, Col. Phys. and Surg., New York.

---

THE use of electricity in the treatment of extra-uterine gestation is a method which, although before the profession for some time, has not made much headway. Originally employed in Italy and applied in several cases in England and Germany, by far the larger number of cases have been reported in America. The reasons for this lie in the difficulties of diagnosis, the rarity of the condition, and the strong inclination of gynecologists throughout the civilized world to at once proceed to laparotomy. Every case, therefore, in which there is little doubt of the correctness of the diagnosis, and which has terminated successfully under this simple method of treatment, deserves being placed on record. It is for this reason that I report the following case:

Mrs. S., 23 years old, married seven months, was first seen by me on October 4th, 1886. Before marriage she used to suffer from intense pains at the menstrual periods. Her courses had appeared regularly up to ten weeks previously. She regarded herself as pregnant, having been troubled with some nausea, vomiting, and fulness of the breasts. About a week previous to my first visit, she had begun to be troubled with pains in the right side of the abdomen shooting down the right thigh. These pains became more and more severe, and soon a bloody discharge from the vagina made its appearance. When I saw her on Oct. 4th, she was suffering from intense cramps in the abdomen which, in

connection with the discharge of blood from the vagina, I regarded as due to an impending abortion. She was suffering extremely, so that a thorough examination was impossible. With the finger in the vagina, the cervix was found to be soft and patulous. The os externum was sufficiently dilated to admit the tip of the index finger. I gave her at the time a hypodermic injection of morphine. I saw her again two days later. The pains and bleeding continuing unabated, I determined to put her under the influence of an anesthetic and make a thorough examination. Ether was given by my friend Dr. A. T. Joyce. After irrigating the vagina with a weak solution of corrosive sublimate, I introduced my finger beyond the os internum, displacing a large shred of membrane which I took for decidua, and entered the uterine cavity. Excepting a few strings of clotted blood and some more of this membrane, the somewhat enlarged uterus was perfectly empty. To the right of the fundal region the point of my finger entered a circular opening which seemed to be the dilated entrance to the right Fallopian tube, and beyond this a saccular mass was felt. With the opposite hand over the right hypogastrium, a distinct tumor, the size of a boy's fist, could be easily mapped out. It then struck me that we were dealing with a case of interstitial pregnancy. Later in the day, I invited Dr. F. Huber to examine the patient, and he had no difficulty in feeling the tumor. His diagnosis coinciding with my own, we decided to destroy the fetus by faradic electricity. With one pole, consisting of a small metallic bulb on a non-conducting handle, placed against the tumor at the roof of the vagina, and with a flat sponge connected with the opposite pole and placed over the right hypogastrium, a strong current was made to pass through the tumor for about fifteen minutes. This caused her so much pain that I was obliged to give her morphine hypodermically for its relief. That night she slept well, and very little blood came away. A similar application was repeated on the following day. On Oct. 9th, Dr. C. E. Denhard examined the patient and readily made out the tumor. He concurred in the diagnosis. At this time, it was noticed that the cervix had become hard, and the os was so small as not to admit anything larger than an ordinary sound. The faradic applications were repeated eight times in the course of two weeks. From Oct. 16th, ten days after the first employment of electricity, she no longer complained of pains, and the bleeding was replaced by a discharge of thick whitish mucus. Nov. 1st, she was out of bed and the tumor was rapidly diminishing in size. Nov. 11th, the menstrual flow appeared and continued rather profusely for twelve days. Exactly four weeks later, Dec. 11th, the menses again appeared and lasted four days. By the middle of December the mass had completely melted away. Dr. P. F. Mundé, who kindly examined the patient at this time, reported that he could find nothing abnormal beyond a little sense of resistance, which might be due to a normal ovary. The patient then became pregnant, and toward

No.	Case of.	Seen by.	Reported in.	No. of applica- tions	Variety of current.	Remarks.
1	Bachetti.	Burci.	Gaz. Med. Italian Federat. Tosca- na, 1873, vol. iii, No. 18; L'Union Méd. 1873, xi; Trans. Am. Gyn. Soc., 1882, p. 191.	1	Electro- puncture with farad- ism.	3 months' growth; tubal gestation; three months later, the tumor was reduced to the size of a pigeon's egg.
2	Hicks.	.....	Trans. Obst. Soc. London, 1866, vol. vii; Parry, "Ex- tra-uterine Pregnancy," Trans. Am. Gyn. Soc., 1882.	2	Faradism.	3½ months' growth; abdominal gestation; two applica- tions in ten days under chloroform and causing tem- porary cessation of fetal movements; five weeks later, puncture of the cyst through the vagina, followed by internal hemorrhage and death.
3	Allen.	.....	Trans. Obst. Soc., Phila., 1872; Am. Journal of Obstetrics, 1872; Trans. Am. Gyn. Soc., 1882.	8	Faradism.	4 months' growth; abdominal pregnancy; three years later a tumor left, the size of a fist.
4	Allen.	Agnew & Popper.	Journal of Obst., 1872, vol. v.	Faradism.	10 weeks' growth; the tumor was later found reduced to the size of a goose-egg.	
5	Landis.	Loving.	Ohio Med. and Surg. Journ. Oct., 1877.	8	Faradism.	2½ months' growth; tubo-abdominal gestation; no trace of tumor left in less than a year.
6	McBurr- ney.	Rockwell, Thomas and Em- met.	N. Y. Med. Journ., Mar., 1878; Trans. Am. Gyn. Soc., 1881; Beard & Rockwell, C. Med. and Surg. Electricity."	2	Galvan- ism.	3 months' growth; tubo-uterine gestation; after the sec- ond application, contractions were set up in the tumor and the fetus was discharged through the uterus and vagina.
7	Roeve.	.....	Trans. Am. Gyn. Soc., 1879.	13	Faradism.	3 months' growth; abdominal gestation; six months later the tumor was quite small.
8	Harrison.	Thomas.	Trans. Am. Gyn. Soc., 1882.	3 or 4	Faradism.	3 months' growth; tubal gestation; tumor steadily di- minished.
9	Lusk.	Keyes.	Journal of Obstetrics, April, 1881.	3 or 4	Faradism.	3 months' growth; tubal gestation; tumor was found some time after reduced to the size of an English wal- nut.
10	Wilson.	.....	Trans. Am. Gyn. Soc., 1882.	6 or 8	Faradism.	2½ months' growth; the tumor began to diminish after a week's treatment and finally disappeared.
11	Landis.	Dunlap.	Med. News, Aug. 8th, 1882; Munch- en appendix to Guzeaux and Tar- niers' "Obstetrics," 7th Am. Ed. 1884.	6	Faradism.	3 months' growth; same patient as Case No. 5, seen four years later; tubal gestation; tumor steadily diminished in size.
12	Billington	Thomas & Rockwell	Trans. Am. Gyn. Soc., 1882; Jour- nal of Obst., 1881; Beard & Rockwell loc. cit.	4	Galvan- ism.	3 months' growth; tubal gestation; complete recovery.
13	Bache Mc E. Emmet	Thomas & Rockwell.	Journal of Obst., Feb., 1882.	3	Galvan- ism.	3½ months' growth; abdominal gestation; finger in ute- rine cavity found it empty. Tumor diminished in size.

14	Garrigues, Schüller.	Journ. of Obst., Sept., 1882; Trans. Am. Gyn. Soc., '82.	10	Faradism.	2 months' growth; tubal gestation; in sixteen days reduced to size of English walnut.
15	Herrick.	Thomas, Emmet and Rockwell.	4	Galvanism.	3½ months' growth; extrauterine mass steadily diminished in size.
16	Westcott.	Thomas & Beard and Rockwell (loc. cit.).	4	Galvanism.	6 weeks' growth; tubal gestation was probably associated with normal pregnancy; the normal pregnancy was not disturbed; the extra-uterine mass was later barely to be detected.
17	Doct. name-suppressed.	Beard and Rockwell (loc. cit.).	2	Galvanism.	4 months' growth; no evidences of tumor to be found after a time.
18	Sims.	Emmet and Rockwell.	4	Galvanism.	3 months' growth; the patient was entirely cured.
19	Cushier.	Thomas.	10	Faradism.	2½ months' growth; abdominal following ruptured tubal gestation.
20	Cocks.	McGosh & Thomas.	12	Far. and Galv.	3 months' growth; tumor became very much smaller; slight thickening left after 4 months.
21	Lambert.	Jones, Barker and Thomas.	4	Galvanism.	4½ months' growth; abdominal gestation; reduced to the size of a hen's egg.
22	Mundé.	Emmet.	7	Gal. and Far.	After first application of galvanism patient went into collapse; 16 days later faradic current substituted; tumor reduced one-third in size. Well two years later.
23	Berlin.	Chadwick & West.	6	Galvanism.	4 months' growth; only a small portion of mass left five months later.
24	Sibbald.	Polycin, 1884, No. 15; Centraltbl. f. Gyn., 1885, p. 288.	11	Galvanism.	3 months' growth; diminution in size of tumor.
25	Briggs.	Mann.	13	Faradism.	3 months' growth; tubal gestation; tumor became very much smaller.
26	Stoddard.	Mann.	3	Faradism.	3 months' growth; tubal gestation; only trace of tumor left.
27	Lusk.	Thomas.	14	Faradism.	3 to 4 months' growth; tubal gestation; considerable decrease in size of tumor.
28	Garrigues.	Colles.	8	Faradism.	3 months' growth; fetus not killed, but expelled into uterine cavity, where it continued to develop up to the eighth month, when it was born alive and lived five hours; interstitial growth.
29	Lusk.	R. H. Sayre.	4	Faradism.	8 months' growth (?) severe inflammation set up in the sac probably due to previous puncture with aspirating needle; discharge of fetus and removal of placenta through vaginal rent; almost fatal.

No.	Case of.	Seen by.	Reported in.	[No. of appli- cations]	Variety of current.	Remarks.
30	Goeliet . . . . .	Rockwell and Page.	Med. Record, June 25, 1886.	...	Galvanism.	Successful termination; case not yet published in detail.
31	Avelling . . . . .	Spencer Wells and Wrench.	Br. Med. Journ., Dec. 4th, 1886.	4	Faradism.	3 months' growth; tubal gestation; only a little thickening left.
32	Gardiner . . . . .	Br. Med. Journ., Dec. 4th, 1886.	Br. Med. Journ., Dec. 4th, 1886.	6	Faradism.	4 months' growth; patient got up too soon and developed alarming symptoms for a time.
33	Janvrin . . . . .	Rockwell.	Trans. Am. Gyn. Soc., 1886, vol. xi.	3	Galvanism.	6 weeks' growth; at first symptoms of collapse which gradually subsided; then electrical applications; after third application patient developed internal hemorrhage and died in forty minutes; at autopsy, sac was found intact; bleeding came from a large superficial artery.
34	Petch . . . . .	Br. Med. Journ., Dec. 4th, 1886.	Br. Med. Journ., Dec. 4th, 1886.	1	Galvanism.	5 to 6 months' growth; patient subsequently went through puncture a normal pregnancy; tumor completely disappeared after three years.
35	Hobbes . . . . .	Fremont and Mann.	Cent. Ztg., Apr. 21st, 1883; Edinb. Med. Journ., Nov. 1883.	1	Static electricity.	6 months' growth; after the application the child's movements ceased; this was followed by a marked shrinkage in the size of the tumor.
36	Trush . . . . .	Palmer.	Journ. of Obst., Dec., 1886.	21	Faradism.	3 to 34 months' growth; interstitial pregnancy; after the last application the fetus was expelled into the uterine cavity, whence it was finally driven three months later.
37	VandeMaun . . . . .	Trans. Am. Gyn. Soc., vol. xii., 1887.	Trans. Am. Gyn. Soc., vol. xii., 1887.	13	Faradism.	10 weeks' growth; in seven months all traces had disappeared.
38	Sims . . . . .	Annals of Gyn., Jan., 1888.	Annals of Gyn., Jan., 1888.	8 to 10	Galvanism.	Successful case; electricity employed under anesthesia.
39	Chadwick Fitz. Kelly & Somers.	Trans. Am. Gyn. Soc., vol. xii., 1887.	Trans. Am. Gyn. Soc., vol. xii., 1887.	24	Galvanism.	5 months' growth; two months later a bone was seen projecting into the vagina; the opening was enlarged and the fetus extracted; severe blood-poisoning for a time; complete recovery.
40	Mann . . . . .	Med. News, July 11th, 1885; Am. Gyn. Soc., vol. xii., 1887.	Med. News, July 11th, 1885; Am. Gyn. Soc., vol. xii., 1887.	Consid- erable.	...	3 months' growth; abdominal gestation (?) tumor reduced to the size of an egg.
41	Page . . . . .	Harrison.	Journ. of Obst., April, 1887.	5	Galvanism.	2 months' growth; tubal gestation; successful case.
42	Harrison . . . . .	Page.	Journ. of Obst., April, 1887.	...	Galvanism.	3 months' growth; tubal gestation; cure.
43	Brothers . . . . .	Hobbes and Duchard.	Journ. of Obst., April, 1887.	8	Faradism.	24 months' growth; interstitial pregnancy; after several months the mass entirely disappeared; patient has since passed through a normal pregnancy.

the latter part of September, 1887, I delivered her of a boy. At the present time of writing (January, 1888), the patient is enjoying ordinary health.

The employment of electricity in extra-uterine pregnancy dates back to 1853 when Bacheiti resorted to electro-puncture with the faradic current and succeeded in arresting a tubal gestation.<sup>1</sup> In 1866, Braxton Hicks employed a faradic current twice in a case of abdominal pregnancy of three and a half months' duration, but abandoned the method in order to puncture the cyst per vaginam. This was followed by internal hemorrhage and the death of the patient a few days later.<sup>2</sup> In 1869, Allen treated a case of abdominal pregnancy by this method with success, the first case in this country.<sup>2</sup> I append as many cases as I have been able to collect.

From this list we see that, of the 43 cases, 2 were treated by electro-puncture, 21 by faradism, 16 by galvanism, 2 by both currents, and 1 by franklinism; in the remaining case, either faradism or galvanism was used, but the reporter does not specify which. 2 cases terminated fatally: the case of Braxton Hicks (2) as the result of subsequent puncture of the cyst five weeks later, and hence the fatal result cannot be attributed to the electricity; and the case of Janvrin (33), in which hemorrhage was induced from a ruptured artery on the sac-wall, which had spontaneously opened nine days previously. In this case, Janvrin acknowledges that, in view of the probable internal hemorrhage, laparotomy should have been resorted to in the first instance. In the cases of Mundé (22), Lusk (29), Gardiner (32), and Chadwick (39), alarming symptoms developed for a time, but the patients recovered. In all of the cases, excepting 2, the fetus was killed. Of these 2, in the case of Hicks (2), the method was abandoned after two trials; and in the case of Garrigues (28), the fetus was displaced from the tube into the uterus, where it continued to grow. In more than half of the cases, it is distinctly stated that the tumor either entirely disappeared or became shrivelled up into a small mass. In the cases of McBurney (6), Garrigues (28), and Trush (36), the current set up contractions in the muscular layer of the Fallopian tube, which resulted in the expulsion of the fetus into the uterine cavity. In the cases of Lusk (29) and Chadwick (39), the treat-

<sup>1</sup> See article by Garrigues, *Trans. Am. Gyn. Soc.*, 1882, p. 191.

<sup>2</sup> *Ibid.*



ment was followed by suppuration in the sac, and septicemia; the fetus in each case began to work its way out through a spontaneous opening in the vagina, and, this process being assisted, both patients recovered.

Although this method of treatment has been before the profession for more than thirty years, it has not, except in America, met with much favor. In England, the method was given up after Braxton Hicks' failure, until a year or two ago, when three successful cases were reported by Aveling, Petch, and Gardiner (of Montreal). The great English laparotomist, Lawson Tait, utterly despises the idea and ventures to "predict that this treatment will be dropped, as all such treatments are, without explanation of the cause, in a very short time."<sup>1</sup> Naturally he recommends abdominal section, and is sustained by a brilliant series of successes.<sup>2</sup> But in the experience of other gynecologists, laparotomy has not proved so successful. It is not many years ago that Litzman collected 44 cases of this operation in extrauterine pregnancy with 24 deaths.<sup>3</sup> As it has been found that 52 per cent of the cases recover when left to Nature, it would seem preferable to leave them alone.<sup>4</sup> In Germany, the method is unqualifiedly condemned. In France, the method has not been tried, although recommended by Duchenne and Apostoli, of Paris.<sup>5</sup> I have found no records of cases reported in the other countries of Europe, excepting the one case of Baccetti in Italy.

When compared to the other rival methods—withdrawal of fluid by tapping the cyst, or the injection of drugs to destroy the fetus—the results from electricity have proved far more satisfactory. There are quite a number of failures or fatal cases on record where these methods were resorted to (Hicks, A. Simpson, Martin, Netzel, Hutchinson, Scott, Gallard, Depaul,<sup>6</sup>

<sup>1</sup> JOURN. OF OBST., 1886.

<sup>2</sup> Mr. Tait has done laparotomy for rupture of the sac in extrauterine pregnancy thirty-five times, with thirty-three recoveries; but, in the experience of others, although under the modern improved methods of operating, the results are better than formerly, the showing is not so good.

<sup>3</sup> Arch. f. Gynäk., 1880.

<sup>4</sup> Cazeau and Tarnier's "Obstetrics."

<sup>5</sup> Trans. Am. Gyn. Soc., vol. xii., 1887.

<sup>6</sup> From Küchenmeister, Arch. f. Gynäk., 1881.

Fränkel,<sup>1</sup> Routh, J. Y. Simpson, Thomas [2 cases], and Conrad.<sup>2</sup>

How does electricity act in these cases? There can be no doubt that, with the electric current of sufficient strength, fetal life can be destroyed in these cases without endangering the life of the mother. Landis,<sup>3</sup> experimenting on beetles, minnows, and newly-born rabbits, has directly proven the power of electricity to suspend, temporarily or permanently, the vital functions of these animals, depending on the strength of the current and the duration of the application. He thinks that, in ectopic gestation, the current not only acts by destroying the fetus directly, but also by interfering with the placental circulation. After the death of the fetus, it undergoes certain changes. Küchenmeister<sup>4</sup> has made a careful study of these changes as it occurs in the retained fetus, and classifies them under three heads: 1st, absorption of the fluid, calcification of the membranes, and mummification of the fetus; 2d, absorption of the fluid, calcification of the membranes, and calcification of the fetus at adherent points between the membranes and fetal surface; 3d, calcification of the entire surface of the fetus, with mummification of the inner parts. The fetus, in most of the cases collected by Küchenmeister, had reached full term, and had occupied the abdominal cavity for varying periods of time, the longest period being fifty-seven years. He states that, when the fetus is only partially calcified, it may soften and suppurate; but it is well to add that this only refers, as a rule, to the mature fetus.

It is, however, to Leopold<sup>5</sup> that we are most indebted for our knowledge of the changes which the fetus undergoes when retained in the abdominal cavity for various lengths of time. This knowledge he arrived at by an ingenious series of experiments in which he transplanted fetal rabbits of different stages of development into the peritoneal cavity of full-grown rabbits. Most of the animals recovered, and were killed between the third and seventieth days. I shall simply quote the results found in several of the most striking examples. Two fetal rabbits,  $2\frac{1}{2}$  cm. long, representing seventeen to eighteen days'

<sup>1</sup> Arch. f. Gynäk., 1879.

<sup>2</sup> Lusk's "Obstetrics."

<sup>3</sup> Am. Journ. of Med. Sciences, July, 1885.

<sup>4</sup> Arch. f. Gyn., vol. xvii.

<sup>5</sup> Arch. f. Gyn., vol. xviii., 1881.

growth,<sup>1</sup> were introduced into the peritoneal cavity of a rabbit. On the thirty-seventh day the animal was killed, and two soft bodies the size of a small bean were found encapsulated. The capsule, 1 mm. thick, was found to consist of connective tissue and blood-vessels, with remnants of cartilage occupying the centre of the mass. The cartilage-cells at the periphery were embryonal in structure, but further towards the interior showed an enormous increase in size. These large cells contained four to ten or more nuclei, some of them being transformed into fetal bone tissue, or being the seat of a deposit of lime; *so that the embryo was reduced to a cartilaginous, osseous, and calcareous mass.* Another rabbit of this series, killed about the fiftieth day, *showed absolutely no trace of the fetus, so that it must have been completely absorbed.* In another experiment, a fetus 8 cm. long (full term) was transplanted. On killing the rabbit on the sixty-sixth day, the fetus was found surrounded by a capsule 2 to 3 mm. thick, with its soft tissues entirely absorbed, and only the most resistant portions left.

These experiments, therefore, prove conclusively, not only the power of Nature to mummify and encapsulate the dead fetus, but also, under favorable circumstances, to cause its complete absorption. In this country, where the fetus has been early destroyed by electricity, there is a sufficient number of cases on record to prove that precisely these same changes occur in the human being in extrauterine pregnancy. In many of the cases, the extra-uterine mass completely melted away. In those cases in which there was only a reduction in the size of the tumor, it is probable that mummification and calcification of the fetus occurred. In two of the cases (29 and 39), inflammation and suppuration in the sac ensued. In both of the cases, however, the fetus was older than four months; and in Lusk's case the sac was first aspirated. It has been claimed that in tubal pregnancy the employment of electricity predisposes to rupture. The clinical facts do not bear out this assumption. In the only case in which a patient died of internal hemorrhage after the use of electricity, the sac was found intact, the blood having come from a vessel on the surface which had previously given way.

In three of the cases, under this plan of treatment, the fetus

<sup>1</sup> The full term of gestation in the rabbit is twenty-eight days.

was expelled from the tube into the uterine cavity (cases 6, 28, and 36). The possibility of such an occurrence has been strongly doubted. In the vast majority of the cases, there is very little or no communication between the sac and the uterine cavity, but in the interstitial variety such a communication does exist. Parry,<sup>1</sup> in an analysis of 500 cases of extra-uterine pregnancy, found 31 to be of the interstitial variety. Among these are several interesting cases in which the fetus passed from the tube into the uterus. Thus, in the case of Langier, the hand introduced into the uterine cavity felt the bag of waters, with the foot of the child protruding through the orifice of the right Fallopian tube. The delivery was accomplished after considerable difficulty. In Hodge's case, the child was extracted from the tube through the uterus. Janvrin,<sup>2</sup> by external pressure, excited contractions in the tube by which the ovisac was transferred into the uterine cavity, whence it was finally cast off six weeks later. Schwartz,<sup>3</sup> with his finger in the uterus, detected an ovisac at the uterine opening of the Fallopian tube. The fetus was discharged from the vagina on the fifth day. Similar cases have been reported by Doran,<sup>4</sup> Polk,<sup>5</sup> Hicks,<sup>6</sup> Mundé,<sup>7</sup> Poppel, Monteil, Pows, Lenox,<sup>8</sup> and Parkes.<sup>9</sup>

The destruction of the fetus by electricity is indicated up to the fourth month in cases of extra-uterine pregnancy. Beyond this period I believe that only Garrigues recommends this method. Küchenmeister<sup>10</sup> has shown that it is dangerous to wait for the full development and calcification of the fetus, and that such a lithopedion may at any time soften, suppurate, and set up inflammatory processes in the neighboring parts. In destroying the fetus early, we either cause its entire absorption or reduce it to an inert mass. Clinical experience has already proven the superiority of electricity over the methods by tapping or injection with drugs. The great objection to laparotomy in these early cases—this being the method resorted to by many eminent European gynecologists—is that we are

<sup>1</sup> Parry, "On Extra-uterine Pregnancy."

<sup>2</sup> JOURN. OF OBST., August, 1885.

<sup>3</sup> JOURN. OF OBST., Jan., 1887.

<sup>4</sup> JOURN. OF OBST., Feb., 1883. <sup>5</sup> JOURN. OF OBST., Aug., 1885.

<sup>6</sup> Trans. of Obst. Soc. of London, 1867. <sup>7</sup> Trans. Am. Gyn. Soc., 1879.

<sup>8</sup> See article by Mundé in Med. News, Dec. 26th, 1885. <sup>9</sup> JOURN. OF OBST., May, 1887.

<sup>10</sup> Loc. cit.

dealing with a severe major operation. Very few general practitioners would care to perform the operation themselves, and the successful specialist is not always within easy reach. The method by electricity is, however, one which can be employed by every physician. It is absolutely devoid of danger, implies no cutting, and is readily consented to by patients. Lawson Tait thinks that the diagnosis is always haphazard and that a correct diagnosis will probably not be made more than once in three times.<sup>1</sup> Granting this to be true—and most of our eminent gynecologists will not—it still remains proper to resort to electricity in the first place in order to give the patient the benefit of the doubt, especially as it does not interfere with the subsequent performance of the major operation.

As to the method of employing the electrical current in these cases, I shall say very little here, as I have described it sufficiently in the history of my case. In this country the method by electro-puncture is never resorted to. Some physicians prefer the galvanic, some the faradic current. One pole is placed over the tumor externally and the other is applied internally in the rectum or in the vagina.

That this method of treatment has a brilliant future before it, I have no doubt. As in several other branches of medicine, the tendency of modern surgery is to operate first and to make the diagnosis afterwards. This tendency we find frequently exemplified in cerebral as well as in abdominal surgery. This is a wrong direction for medical progress, and the sooner we cry halt the better. The proper progress in the cases we have under consideration is to discover new methods of diagnosis by which an early ectopic gestation can be differentiated from other abdominal growths. I would, in this connection, merely mention the use of the vaginal stethoscope to discover the placental bruit as deserving more attention than it has hitherto received.<sup>2</sup> When sufficient accuracy in diagnosis has been attained, I am confident that all early cases of extrauterine gestation will be treated by electricity, and abdominal section will be a thing of the past.

102 MADISON STREET.

<sup>1</sup> JOURN. OF OBST., June, 1886 (Letter to Harris).

<sup>2</sup> Routh says that, by this means, the placental bruit can be heard as early as the sixth week (Med. Record, Sept. 18th, 1886, p. 331).

MARTIN'S METHOD OF OPERATING IN HIGH-SEATED  
ABSCESSSES, INVOLVING THE OVARIES, TUBES, AND  
INTESTINE.

---

BY

HORATIO R. BIGELOW, M.D.

---

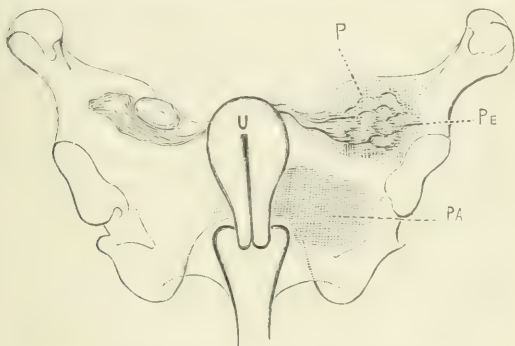
It is a general rule of surgery, and a good one, to evacuate pus in whatever part of the body it may be found. The question hinges not upon propriety, but upon method. Nature is governed by unchanging, immutable laws. Each natural law in its immediate environment is a guide to a scientific adjustment of human law. Pus is a local irritant that engenders grave constitutional disturbances. It gives evidence in due time of its desire to be freed from the barriers that keep it in check. If not artificially evacuated, it will burrow or form an opening for itself. If the latter obtain, the perforation is too small to permit of free drainage, and the patient's vitality is slowly but surely sapped. Sequelæ of the gravest nature ensue. Fistulæ, atrophy of essential organs, and extensive inflammatory adhesions. Exudates in the tissue of the parametrium are not difficult of recognition, and, as a rule, are easily reached by the trocar. It is quite another matter, however, when the inflammatory process arises in the perimetric tissue. Circumscribed peritonitis means formative lymph exudation, giving rise to adhesions, and there result peri-oöphoritis, peri-salpingitis, with a knuckle of intestine bound up in the mass. It is almost impossible to push the fornix up high enough to make a thorough orientation with the finger. To puncture through the vagina is dangerous practice and a blind one, because the surgeon can never be sure of avoiding the intestine which precedes the tumor in its downward dragging, neither can he ever know that he has sufficiently penetrated the sac. To evacuate per rectum is not only difficult, but unwise. In the first place, the operation is more or less a happy-go-lucky one, because the field of vision is obscure; secondly, we run the same risk of wounding the intestine; thirdly, we may cause a fistula; and fourthly, the mass is so high up that it cannot be



satisfactorily reached. Under these circumstances, Dr. Martin has adopted a plan of his own, and I cannot describe it better than by giving a verbatim report of a lecture which he delivered on March 17th at his private hospital.

"In the case of the woman that I now show you, I have adopted a mode of treatment which differs entirely from former methods of handling exudates. There are two varieties of exudates which are easily distinguished from those arising in the parametrium. An abscess of the parametrium once established, the pelvic floor is dragged downwards and fills the whole side of the pelvis. It lies behind the uterus, under the sac of Douglas, and extends over to the other side. These exudates, even when they push the peritoneum high up, forming tumors that may reach to the umbilicus, may always be distinguished by their accessibility through the vagina. It sometimes happens that such tumors point above Poupert's ligament. In these instances the operation is not a difficult one. The opening is made above the ligament and drainage established. I have operated most happily in a large number of such cases. But the case that I now show you must be distinguished from such as these. Cases such as this one do not, as a rule, depend upon a puerperal process, but upon cystic formations of the ovary, to which a septic condition may be conjoined. This causes a circumscribed peritonitis in which the ovaries (in which abscesses are also found), tubes, and even links of intestines are bound together in one mass of adhesions. These conditions are of course to be distinguished from those that result from an exudate in the parametrium. When parametritis begins (see Fig. 1), the tumor occupies the position shown in the plate. An examination reveals without difficulty a tumor immediately above the fornix vaginae and close to it, while in high-seated abscesses of the perimetrium, the tubes, ovaries, and often the intestines, are bound together, and are so high up as to be made out with exceeding difficulty through the vagina. Only with the expenditure of much energy can one push the floor upward through the fornix. Even then, by bimanual palpation alone can the surgeon distinguish the mass. This inflammation, which is a circumscribed peritonitis, and *not* a parametritis, in which tubes, ovaries, and intestines are bound together, is of very great significance. Many of these cases get better by natural processes of absorption, and it is to this end

that we always at first direct our attention and therapeutics. If the genital organs are kept quiet, if irritability is alleviated, if the bowels act regularly, and intercurrent conditions of excitement are guarded against, these cases may get well. But when absorption does not take place, then the process of convalescence can only be established through the bursting of the abscess into the rectum or vagina, and thus establishing spontaneous drainage. But only in very exceptional cases does a cure result in this way. The surgeon not infrequently sees women who for years have had such abscesses discharging into the rectum or vagina, and whose functions were very imperfectly per-



*U, Uterus. P, Tumor mass. Pa, Parametrium. Pe, Perimetrium.*

formed. These cases do not always depend upon marital conditions. Of the three (3) women upon whom I have operated, one who came to me last fall presented some most characteristic features. A young Mexican woman commenced to menstruate at 12 years. During the period of menstruation she took a cold bath in the summer in a brook by her house. A very intense peritonitis resulted from an arrest of the flow. She was treated by local doctors and got better. At each return of the menstrual flow she had intense pain, and, indeed, she was never free from some pain. Matters went on from bad to worse. After her marriage she became much worse. She was almost bedridden, and was then seen by a former pupil

ne who lives in Mexico. He made a laparotomy, and found an exudate blocking up the pelvic cavity. He left it undisturbed, and closed the abdominal wound. For a short time she seemed to be better, but as soon as she began to menstruate she had a return of the pain. In a very bad physical condition she came to Germany to be treated. An examination was made, a large exudate on the left side diagnosed, and she was sent to Tölz. After remaining there several months she returned here last fall. The contour of the tumor was easily made out in a large callous mass, and it was evident that the intestine was involved. I first treated her in the usual way. I then concluded that this was a suitable case for massage through the vagina, as many of these old exudates do well under such handling. The result was anything but satisfactory. The patient had a sharp fever and a great discharge of pus. The massage was of course discontinued, and I then made up my mind that, as the abscess had perforated the rectum, my only plan was to establish free drainage. To operate through the rectum carried with it a danger of wounding a gut, while an operation through the vagina was impossible, as the mass was so high up that I could not make sure where my trocar was going. I therefore did a laparotomy—made a thorough orientation of the mass. I freed it as far as possible from its adhesions, and by manipulation rendered it accessible to the trocar within the vagina, avoiding the gut. A large quantity of pus was evacuated, the trocar going well into the cavity. The abdominal wound was then closed. Through the trocar canula a sound was introduced to enlarge the opening, a good-sized drainage tube inserted, and the patient put to bed. In this case, the result was a remarkably good one. Before the operation, the temperature was as high as 102.2° and 102.4° F., and each evening it was always 100.4° to 101.8°. After the operation, the temperature fell and never went higher than 99.5°. The change in her condition was astonishing. For five months she had not menstruated, and the last time that the function was performed it was under the greatest pain. She was reduced to a skeleton and could scarcely walk. Before Christmas she left my hospital, and with her husband engaged private lodgings. In the middle of March I saw her again. She looks well, has grown fat, and menstruates regularly and painlessly. The exudate has been

fully absorbed, the uterus is freely movable, and the mass on the left side has disappeared.

This is a case of absolute cure in a woman who, since her early youth, had suffered from circumscribed peritonitis and pelveo-peritonitis, in whom all attempts at absorption had proved unavailing, and in whom free drainage was only possible after freeing and manipulating the mass from above. The case that I show you to-day is similar to the one that I have just described. This woman has been married four years, and has had two children, both labors being normal. In July, 1887, she became suddenly unwell from a cold contracted during menstruation and from overwork. The flow was arrested. Peritonitis developed, and pus was discharged through the rectum. In October, the patient came to me to be treated. In the mean time, she had consulted many physicians, who had tried every way to reduce the tumor. The treatment had, however, only weakened the patient and made her general condition worse. There was a constant and free discharge of pus per rectum. On November 7th, 1887, I made the operation just described. On the left side of the uterus was a tumor as large as a child's head, which was adherent to the intestine. It was impossible to break up these adhesions without injury to the gut. The abscess was punctured through the vagina. In this case, such a puncture could not be made without opening the abdomen first, owing to the great distance between the peritoneum and vagina, and to the position of the intestine, which was intimately adherent high up in the sac of Douglas. Rectal puncture was also out of the question. Here also the result was excellent. The temperature never went above normal. The patient was strong, and the tumor had shrivelled. This was in November, 1887. Up to January, 1888, she went along very well. She is now suffering again with a peritoneal exudate (but this is not a return of the old one).

The third case I operated upon December 17th, 1887, in the same way. The physician who attended her said that she had had for two years a tumor as large as a child's head, lying on the left side of the uterus, and discharging through the rectum. Notwithstanding the best of care, the woman had become very weak, and the flow of pus was increased upon the least provocation. Upon entering my hospital, I found a swelling on the left side, extending well above the fornix, which had a hard

and knotty feel. It might be an exudate in the parametrium undergoing absorption. The patient was put under observation, and it became more and more apparent that the tumor belonged to the upper half of the pelvis, and that it was not on the under face of the lig. latum. I made a laparotomy, and here I found also that the intestine was intimately adherent in the mass, so that it was almost impossible to free it. The gentlemen present had an opportunity yesterday of seeing that I do not generally fear adhesions of a sling of intestine. But when the adhesion co-exists with a great thickening of the intestinal wall, where a communication exists between the tumor and rectum, through which pus is constantly discharged, in such cases the operation I have described is demanded, if the surgeon would avoid all risk of injury to the intestine. No one can tell the distance between the rectal perforation and the tumor; the point of perforation is not always readily made out, so that free drainage per rectum is very difficult, and seems to be contra-indicated. The tumor, being so immovable and lying so deep that it cannot be moved up into the abdominal cavity, prevents drainage from above. Otherwise it would be a very simple matter to put in a glass drainage tube and to unite the abscess wall to the abdominal wound, thus establishing a communication which would permit us to wash out the abscess cavity. But such a procedure cannot be practised in these instances. The surgeon must not lose sight of the fact that the adhesions of the rectum and of different parts of the intestine are of such a nature as to prevent a steadying or fixation of the mass. Drainage from below is alone advisable, but such drainage without the guiding hand above and within the abdominal cavity I do not advise, since without it the intestine would most probably be wounded. In the three cases that I have sketched for you, ovaries, tubes, rectum, intestine, and peritoneum were all included in a common mass. Exudates formed which perforated the rectum, and which, by reason of adhesions to the intestine and rectum, could not be opened from behind, and, for reasons which I have already given, could not be safely opened in the usual way through the vagina. I therefore made laparotomy, freed the exudates, and then, controlling the mass with one hand in the cavity, I was able to puncture intelligently through the vagina, and to establish free drainage. In two of these cases, the results were excellent. The termina-

tion of the third case cannot yet be predicted. The woman has been careless of herself, has caught cold, and has seriously interfered with her convalescence. In the two cases that remained in my hospital for some time and were carefully watched, and who, after a lapse of time, seemed to go on to perfect recovery, this result was obtained as soon as free drainage was established and the discharge per rectum arrested, and this latter occurred immediately after the operation. All these women since the operation have menstruated and have regained their strength.

I commend this operation only in such conditions as I have endeavored to point out. Women whose lives are endangered from the constant drain upon them, in whom the tumor lies so high up and is so intimately connected with the intestine that it cannot be reached safely from the vagina, and in whom, for obvious reasons, an operation through the rectum is impossible—in these women laparotomy and vaginal drainage is a rational procedure. The after-treatment is simple. Absolute rest is maintained. The wound is not washed out and the drainage tube remains for months after the patient has gotten out of bed."

The advantages of Martin's plan over the one originated, put in practice, and strongly advocated by Mr. Lawson Tait are, that a better drainage is insured, and a more continuous one; that the wound can be more perfectly and for a longer time kept under observation, and because, too, it is *always* better to drain from below when possible. It would be a travesty upon scientific progress to suppose that no new improvements could be made upon suggestions which for five years have been in vogue. Lawson Tait did a brave thing and a noble one when he devised his plan of opening the abdomen, not simply to find out, but to open the abscess and to drain from above. It created a new era in gynecology, but it did not exhaust the possibilities of greater perfection still. There are cases, as claimed by Martin, where drainage from above would be ineffectual, and many of those instances which have been tapped from below have done badly, because the abscess-cavity was insufficiently opened. I remember reading in this JOURNAL some time ago a discussion, and a first-rate one it was too, of the Chicago Gynecological Society over the propriety of opening these exudates through the rectum. For the reasons that I have already stated, I do not favor this plan,



and I cannot believe that it will ever achieve popularity. I will add here that it is often impossible to get drainage through the abdomen, since these abscesses are often so far away from the abdomen that their walls cannot be united to the abdominal wound. An examination of the pus of these abscesses, after Koch's method, showed it to be full of virulent cocci, so that an escape of even the smallest quantity of it within the cavity would have occasioned a violent peritonitis. By Martin's method there is no connection between the internal part of the sac and of the peritoneum, so that this danger is avoided.

BERLIN, March 19th, 1888.

---

## OBITUARY.

---

BENJAMIN F. DAWSON.

---

DR. DAWSON was born in the city of New York in the year 1847, of an old New York family. He was reared in affluence, and was graduated in 1866 from the College of Physicians and Surgeons in his native city. Influenced by natural tendencies and professional associations, he soon developed a liking for the study of obstetrics, gynecology, and the diseases of children, and in May, 1868, established the *AMERICAN JOURNAL OF OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN*, which he at first edited together with Dr. Noeggerath; in the second year, Dr. A. Jacobi became co-editor, but in the fourth year Dr. Dawson took entire editorial charge of the *JOURNAL*, and devoted not only his energies, but his purse, unstintingly to the success of the venture. When in 1874 other pursuits absorbed his attention, and the *JOURNAL* suffered in consequence, Dr. Dawson disposed of his whole interest in the periodical to the present proprietors; and the present editor, who for a year previously had been associate editor, assumed sole editorial control. While the success of the *JOURNAL OF OBSTETRICS* dates from that period, the credit for the idea and foundation belongs to

Dr. Dawson, and will remain an enduring monument to his enterprise.

In the earlier years of his professional career, numerous articles emanated from Dr. Dawson's pen, chiefly on pediatric subjects. Later, he devoted more attention to gynecology, the practice of which he enriched by a number of ingenious instruments, for the construction of which his practical and inventive mind rendered him peculiarly adapted. Among these are his ovariectomy clamp, which is mentioned in most works on gynecology, his spreading Sims' speculum designed to afford access to the posterior vaginal wall, his folding Sims' speculum for convenient transportation, and his galvano-cautery battery.

He was for many years Physician to the Out-door Department, and later Assistant Surgeon to the Woman's Hospital; for a short time Professor of Gynecology in the New York Post-Graduate School, and occupied in the earlier part of his career several positions as assistant to chairs of diseases of women in our city colleges. He established a dispensary for sick children which did a great deal of good and still flourishes. Although possessed of ample means, Dr. Dawson was always active in his profession, and a regular attendant, until ill-health compelled his absence, at the medical societies. He was a working Fellow of the New York Obstetrical Society, of which he was once vice-president, and on the death of the President Dr. Peaslee, he assumed that office.

Of late years ill-health prevented him from taking an active part in medical matters, although his interest in them kept up to the last.

He had suffered for several years from diabetes mellitus in an aggravated form, to which he succumbed on April 3d, 1888.

Personally and socially Dr. Dawson was of a genial and kindly temperament, and popular among his associates. He was eminently artistic in his tastes, which he was abundantly able to gratify. Had his life been spared, he would undoubtedly have continued to rank among the foremost of the younger gynecologists of America. All who knew his good qualities and his sterling abilities, deplore his untimely end.

As the founder of this JOURNAL, this modest tribute is rendered to his memory in remembrance of past associations.

## CORRESPONDENCE.

### PRIMARY LAPAROTOMY IN EXTRA-UTERINE PREGNANCY.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

DEAR SIR:—You are not acting fairly to me in closing the discussion. You ought to insert this letter, if only for its brevity. The letter which Dr. Harris quotes, and emphasizes by printing in italics, shows exactly what I meant at the time, and what I mean now. “*You are much mistaken about saving patients by ‘primary laparotomy.’ I have operated seven times, and saved all my patients but one, and in that case I saved the child.*” This shows (1) that I condemned his phrase, “primary laparotomy,” which ought to be in quotation marks in the letter he quotes, at least it is so in my dictation copy; (2) that I was speaking of my whole experience, not of Dr. Harris’ definition at all. That must be clear even to Dr. Harris, for of seven cases, one was a section by the vagina, *known to Dr. Harris*, and could not possibly be included by anybody as a “laparotomy.” Dr. Harris’ continual mixing up of the “seven” and “six” and “fourth” and “third,” is due, as I said in my last letter, to his confusing two lists—the one having seven cases and the other six.

Yours truly,

LAWSON TAIT.

March 26th 1888.

[I have agreed to publish the above letter because I wish to be fair to everybody; hence I have given Dr. Harris a second opportunity to close the discussion.—Ed.]

### REPLY TO MR. TAIT'S LETTER OF MARCH 26TH, 1888.

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

DEAR SIR:—Mr. Tait is ingenious in begging the question, but is not successful in establishing his point. In quoting from his letter of May 10th, 1886, he leaves out the important sentence, “*Three of my extrauterine children are alive and growing up.*” These to be characterized as “growing up” indicated that

they were all old enough to be considered beyond the risks of early infancy. But for this sentence, I might have supposed that Mr. Tait was holding still to his own construction of the term "primary," against the world of obstetrical writers. This line was clearly in correspondence with my letter, to which the one in question was an answer. Upon the impression made on my mind, I wrote for the seven cases, and was allowed to remain ignorant of the fact that he could not produce them in the form specified, even if his business or his inclination would have permitted it.

There have been 30 exsections of viable ectopic fetuses recorded: 25 of the mothers died. Of the 30 fetuses, 14 died within fifty hours; 1 died in nineteen days; 1 in twenty-one days, and 1 in three months. Of the remaining 13, 1 lived eleven months, and 1 eighteen months; leaving 11 whose record of longevity has not been noted. Mr. Tait's 3 "alive and growing up" would therefore readily represent 7 cases of the class called for. He must admit that his surgical skill could not secure the fetuses removed, against the high rate of mortality common to extra-uterine children after extraction under the knife. The vitality of such subjects being on the average below par, even good nursing and the couveuse of Auvard must fail in a large proportion. If Mr. Tait has had but 3 cases where the extracted fetus was living and viable, and saved all of the children, his success in this line is quite phenomenal.

Very respectfully,

ROBERT P. HARRIS.

April 7th, 1888.

---

#### A SUTURE APPARATUS FOR TRACHELORRHAPHY.

---

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

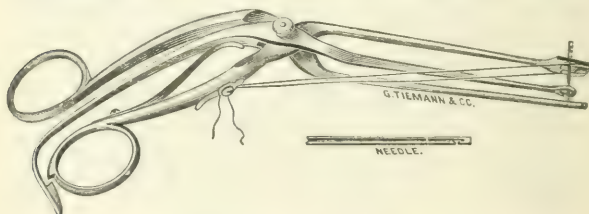
---

DEAR SIR:—I wish briefly to call the attention of your readers to a uterine suture apparatus which has, for the past two years, served me quite satisfactorily in trachelorrhaphy.

The instrument consists of three bars operated by scissor-handles. One bar I designate the needle-bar, because it carries at a right angle to its distal extremity a needle securely fastened with a set-screw. This needle is grooved and has near its pointed extremity an open eye. Another bar, which I have designated the counter-pressure bar, having a slot near the extremity, serves to locate the point of exit of the needle, makes the necessary

counter pressure, and, by a thread retainer near its extremity, holds the thread beyond the slot ready to be drawn against the needle at the proper time. The middle or clearance bar is automatic in its action, and serves to clear the needle by simply separating the handles.

The needle is threaded for use by taking the silk already made into a loop of the proper length, and drawing it under the retaining springs at the end of the counter-pressure bar, holding the proximal end with the forefinger on the instrument, or under the spring on the under side of the handle, out of the way and in a convenient situation to be hooked up by the forefinger of the hand holding the instrument or taken hold of by the other hand. The middle and ring fingers are passed through the eye on the needle side of the instrument, leaving the forefinger free to operate the thread, and the little finger to operate the catch. The patient being in the Sims' specular position, the os well ex-



posed with some form of Sims' speculum, the flaps pared, a tenaculum in the left hand adjusting the posterior to the anterior flap, the needle is placed on the anterior flap, at the point at which it is desired to enter, the fenestra in the counter-pressure bar at the point it is desired the needle should emerge, then, by simply approximating the handles, the needle is pressed through the tissues. When the click of the catch is heard it is a signal that the eye of the needle has passed the plane of the thread. The thread may now be drawn against the needle and held while the handles are separated, by which manœuvre the clearance-bar clears the needle and at the same time draws the thread through the tissues. When the needle is freed from the tissues, the thread can be drawn through them the desired distance, the catch released by the little finger, allowing the clearance-bar to drop back to its place on the needle-bar, the thread unhooked from the needle, cut, one end drawn through and the suture tied or left to be tied later.

To use wire it is only necessary to have a short hook bent on its end, which, being hooked on to the needle after it is passed through the tissues, drops into the eye upon the needle being withdrawn, and is pulled through after the needle, as in the case of using silk. Or, if preferred, a needle with a closed eye, threaded with a short loop fastened to the bar, may be used to draw the wire through.

The closed-eyed needle can also be used with silk in this manner: thread the needle in the ordinary way, punch it through the tissues, catch the short end of the thread over a tenaculum, withdraw the needle, draw the short end through and cut the thread long enough for a suture, leaving the needle still threaded for the next.

Some of the advantages claimed for the instrument are these:

It embodies needle, needle-forceps, and counter-pressure hook all in one instrument.

It can be operated wholly with one hand, leaving the other free to adjust the parts.

It facilitates the operation on the uterus in situ.

It insures accuracy in the placing of the sutures.

It enables the operator, where necessity or expediency demands it, to perform the operation without assistance, and with ease, cocaine and a good self-retaining speculum of suitable form being the only other requisites.

The above cut represents a perfectly working instrument turned out for me, after considerable trouble and experimenting, by Geo. Tiemann & Co., New York City.

Yours truly,

J. M. SPEAR, M.D.

CUMBERLAND, MD., April 6th, 1888.



## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

*Stated Meeting, March 6th, 1888.*

*The President, DR. H. T. HANKS, in the Chair.*

### DILATATION OF THE CERVIX—SEPTIC PERITONITIS—DEATH.

DR. C. C. LEE presented specimens consisting of the uterus with appendages from two cases of fatal septic peritonitis which had occurred in his practice. They were offered because they taught a valuable lesson as to what ought to be avoided in gynecological surgery. In the first case, the septic peritonitis had developed after attempted divulsion of the cervix uteri for the removal of a fibroma. The patient was a widow, the mother of two children; she had suffered from persistent uterine hemorrhage, and was so weak and anemic that her former medical attendant had suspected phthisis. Constant metrorrhagia had existed since Christmas. Dr. Lee had examined her carefully and had found a small fibroid just above the internal os. Two weeks previously he had sent her to the Woman's Hospital for the purpose of having the uterus properly dilated and explored; the tumor to be removed, if possible. The house surgeon, with the consent of the other physicians, had introduced two, and subsequently three more laminaria tents into the cervix, and after the lapse of twenty-four hours, additional dilatation was forcibly attempted. Strict antisepsis was practised. Within twenty-four hours after this final, third effort at dilatation, peritonitis developed: the temperature rose to from 102–105° F.; the pulse ran up to from 120–160, and within seventy-two hours the patient died, with all the evidences of septic peritonitis. Beyond the anemia, she had presented no other symptoms of serious ill health, before dilatation. At the autopsy, the whole peritoneum was found inflamed; the mucous membrane of the uterine canal and the interior of the tubes were highly congested, and the latter filled with pus; the ovaries were purulent, the disease evidently being of recent origin. In the right ovary there was a small hematoma, the left was in a state of acute ovaritis. The uterine tumor had been left *in situ* in the specimen for the inspection of the members. The thoracic organs were healthy. This patient, therefore, had died of septic peritonitis resulting from septic material left in the uterus after dilatation of the canal, which had extended along the tubes and had infected the peritoneum.

The lesson taught by this case is, that in every woman who is

anemic from loss of blood, as in the case of fibroid, forcible dilatation subjects the system to a shock which it is unable to bear. The dilatation is the direct cause of death from shock and peritonitis. There is no doubt that similar cases are numerous, though they are not always reported. The effort should always be made to remove the growth as rapidly as possible, that is, immediately after dilatation. Moreover, dilatation should not be effected by tents, but instrumentally and rapidly, and be followed by irrigation of the uterus so as to prevent the retention of septic material and its extension to neighboring structures.

HYSTERO-TRACHELORRHAPHY—SEPTIC PERITONITIS—DEATH.

The uterus and appendages of the second specimen were derived from a patient who had died of septic peritonitis at the Woman's Hospital after the performance of hystero-trachelorrhaphy. The operation was performed, by Dr. Lee's request, by the house-surgeon, and as far as can be learned it was done carefully, properly, in the usual manner; and the broad ligament was not subjected to tension. But the patient was a feeble and anemic woman, and within forty-eight hours she developed symptoms of peritonitis. The house surgeon removed all the stitches but one, the latter having been overlooked. The vagina was washed out, and an attempt was made to disinfect the uterine canal, septicemia being suspected. Every effort was made to keep up thorough drainage and antisepsis, but in spite of every possible care the symptoms took the same turn as in the first case, and the patient died.

As regards the second case, Dr. Lee knew no clinical sign by which we could anticipate such a condition as resulted in this patient's death. She had had no pelvic inflammation of any sort. She had borne two children, the younger being now four or five yearsold. She had had no miscarriage or disease—nothing to indicate a possible fatal result. He desired to say that he had presented the latter case as an illustration, not of the occurrence of cellulitis, as taught by many authorities, but of peritonitis; that is to say, peritonitis is usually the factor which produces trouble, not cellulitis. The tabulation of many fatal cases had led him to this conclusion.

The pathologist of the Woman's Hospital, Dr. H. C. Coe, in connection with the report of the autopsies, had given him his views in a written report which he fully indorsed and presented to the Society.

*Condensed reports of autopsies in two cases of acute peritonitis following septic endometritis.*

1. Acute endometritis, salpingitis, and general peritonitis, following introduction of laminaria tents.

Thoracic organs: Old adhesions and chronic pneumonia at right apex. Left lung and heart normal.

Abdominal cavity contains  $\frac{5}{8}$  viij. of thick pus (not particularly fetid) which fills the anterior and posterior *cul-de-sac* and the iliac fossæ. Intestines generally congested, but not adherent. Examination of spleen, liver, and kidneys negative.

Uterus as large as the organ at third month of pregnancy; serous coat hyperemic. Cervix dilated by a polypoid tumor, which can be readily felt through the os. Cervical endometrium presents a brownish, necrotic appearance (uterus not opened at time of autopsy).

Serous coat of tubes injected. Fimbriæ intensely congested. Mucous membrane swollen and covered with muco-pus. Into the interior of one tube there has been a recent hemorrhage from the superficial vessels.

Right ovary movable; enlarged to size of pullet's egg, containing a hemorrhagic cyst the size of a walnut. Left ovary cirrhotic; on section it shows acute hyperemia and edema of stroma.

2. Acute endometritis, salpingitis, and general peritonitis following operation for repair of lacerated cervix.

Thoracic viscera normal; abdominal cavity contains  $\frac{5}{8}$  vi. of thick, purulent fluid, in which are flakes of lymph. It nearly fills the pelvic cavity, bathing the tubes and ovaries. Omentum adherent to subjacent intestines. General intense injection of serous covering of gut, but no adhesions except of transverse colon to spleen, liver, and kidneys. No organic changes.

Uterus small, retroverted, and movable. Cervix gaping, and presents a black sloughy appearance. One wire *in situ* on left side. Cervical mucosa black and disorganized. Corporeal mucous membrane congested.

Tubes swollen and congested; marked hyperemia of fimbriæ; mucosa swollen, injected, and covered with pus; ovaries covered with flakes of lymph; intense congestion of stroma, with general edema; general engorgement of the pelvic veins, but no traces of old or recent inflammation in the cellular tissue, especially in the broad ligaments.

Referring to two similar cases that had occurred in the hospital in January, 1888, Dr. Coe wrote that it seldom happened to a pathologist to have the opportunity in the course of six weeks to observe four fatal cases of minor operations upon the cervix uteri. Dr. B. H. Wells, in an article published in the *AM. JOUR. OF OBSTETRICS* for June, 1884, reported forty-three cases of serious inflammatory trouble with six deaths following the operation for the repair of lacerated cervix; many times that number of deaths from hystero-trachelorrhaphy must have occurred up to the present. It was stated that out of these forty-three cases, pelvic cellulitis was present in thirty-four, and pelvic peritonitis in nine, but that death was in every instance due to general peritonitis. In Dr. Coe's opinion, death was invariably due to peritonitis,

from direct extension of the inflammatory process from the uterus to the tubes. He had, in all his previous autopsies (five or six), observed appearances identical with those noted in the bodies of the women from whom these specimens were obtained, and in other fatal cases that had come under his observation (where an autopsy was not obtained) the clinical evidences were such as led him to infer that the inflammatory process was *not* cellulitis, but peritonitis. Subsequent observations had only strengthened him in the position which he took three years ago, that the frequency of acute cellulitis had been greatly exaggerated. There certainly was not the slightest trace of its presence in these specimens. Even in the one in which there were only slight evidences of acute endo-salpingitis, the condition of the endometrium, of the fimbriæ, and, above all, of the ovaries was such as allowed no reasonable doubt concerning the origin and channel of infection. That the peritonitis in such cases was essentially *septic*, and not simply traumatic, was apparent from the necropsies, as well as from the clinical histories. Such cases conveyed their own moral, and indicated clearly that the great danger lay *not* in the presence of old indurations in the broad ligaments (which, as well as peritonitic adhesions, were entirely absent in these, and in all the writer's other specimens), but in the occurrence of septic infection during, or after, the operation.

Dr. Lee only wished to add that the study of similar specimens had convinced him that the process of contamination was inaugurated by uterine lymphangitis which affects not merely the endometrium, but the whole body of the uterus and extends through to the peritoneal cavity. It is mainly the feeble and anemic patient with slight power of resistance who succumbs, and in practice it will be necessary to recognize the condition of the *patient*, and not of the *pelvis* only, as the indication whether to operate or not.

DR. MUNDÉ thought that Dr. Lee's experience in the first case was one to be feared whenever slow dilatation is practised. He had had no parallel cases, but this was perhaps merely due to good fortune. He had learned to look upon intrauterine fibroids as the most difficult cases coming into the hands of the gynecologist. His experience had led him to forego the removal where the tumor was sessile, for failure meant subsequent sloughing and fatal peritonitis. He would prefer extirpation of the uterus with all its dangers, rather than to remove a sessile fibroid broadly attached near the fundus uteri, owing to the difficulty of opening the canal and enucleating the tumor. He briefly outlined three cases, two of them having been virgins, in which he had operated as follows: The cervix was freely incised on both sides up to its insertion in the vagina so as to make the tumor accessible, which was then seized with vulsella forceps, the capsule incised and the tumor enucleated, chiefly with the finger, Thomas' spoon-saw being used very sparingly. It is better practice to incise the cervix and sew it up immediately after operation than to dilate by lam-

inaria or tupelo tents; the use of sponge tents he had given up altogether. It is advisable to use ergot or electricity to force down the tumor towards the internal os; when it is far from the cervix, it is better to temporize or rely on expectant treatment. The spoon-saw in some cases has perforated the uterus and its use should be avoided as far as possible.

The untoward accidents we meet with and hear of as following trachelorrhaphy show that that operation is not as trivial as many believe. He had had one death where the operation was done on a prolapsed uterus, and where absolutely no traction was exerted by the speculum or otherwise. Death occurred on the fifteenth day from septic peritonitis. He had met with one other fatal case where the cervix was doubly lacerated and cicatricial tissue had to be excised, and infection was transmitted from the wound, yet he did not know by what channel. Bearing in mind the dangers of the operation, it is necessary to observe all the antiseptic precautions employed in laparotomy. There was, moreover, the liability of secondary hemorrhage, but this was not germane to the subject.

DR. CLEVELAND recalled a similar case where death had occurred forty-eight hours after operation. At the post-mortem, the cervix was found in a sloughing condition and the endometrium not inflamed. In this case the septic process seemed to have skipped the endometrium, but had attacked the peritoneum. He recalled another case of removal of a fibroid from the anterior lip; here peritonitis developed in twenty-four hours, though every care was taken during the operation and the tumor did not extend to the internal os; it was removed without difficulty. The post-mortem showed sloughing of the wound and endometritis. He felt that we should be very cautious about interfering with uterine fibroids. He had seen the use of the spoon-saw followed by death, though he had also seen a large number of successful cases after its use and deemed it a most valuable instrument. He would defer operation as long as he could, by using tampons and abstaining from active interference as long as possible.

DR. CHAMBERS had seen several cases of sepsis following trachelorrhaphy. As soon as this condition was recognized, the stitches should be removed or the surfaces torn open and the wound washed out. The great majority of cases could be saved that way, even when the temperature was as high as 103 or 104° F., and the pulse rapid and failing. He would not altogether condemn the use of tents, but the ones he used were very small, about the size of a knitting needle, and he inserted one after another. After twenty-four hours and the use of four or five tents the uterus was sufficiently dilated. After divulsion the tumor should be removed as soon as possible, cutting it away piecemeal if necessary, and then washing out the cavity. He would prefer this method to extirpating the uterus and had operated several times in that way.

DR. VON RAMDOHR thought the question was one of sepsis and not of traumatism; it is septic peritonitis and septicemia which follow the operation and may be due to the dilatation by tents or to other causes, perhaps to germs carried in the beard of one of the spectators. It is immaterial how the cervix is dilated, but if tents be used, we must not rely on the instrument-maker to render them aseptic. When sepsis develops, we must resort



to the heroic use of sublimate solution and remove the stitches. It is immaterial by what channel the poison reaches the peritoneum.

DR. CLEVELAND stated that in the cases related the stitches had been removed immediately at the first sign of impending trouble.

DR. DUDLEY asked Dr. Lee whether the inflammation in the specimen shown had extended from the endometrium to the tubes; it could not be seen in the preparation. He had had a case in the country where the operation was septic and peritonitis developed. He had removed the stitches and succeeded in reducing the fever, but the nurse by mistake had administered a teaspoonful of carbolic acid and he was glad that he could ascribe the fatal issue to that cause.

DR. ZINKE, of Cincinnati (*present by invitation*), said:—I was in hopes you would not call upon me, as I did not come here to speak, I came East with a view to learn. However, the subject under discussion is a very interesting one, viz., how is septic peritonitis lit up when all precautions have been instituted? There are other things in medicine which have not been explained, and still they are accepted as facts; though we cannot explain them, the fact remains that they do happen. Every physician must practise every possible precaution before operating and select his cases well. If the patient is in poor health or anemic, better wait until she is built up and prepared for the operation, or else, tide over the case rather than operate.

DR. J. E. JANVRIN read a paper entitled:

THE VERY EARLY REMOVAL OF THE ENTIRE BREAST FOR "SUSPECTED" CANCER FOLLOWING INJURIES, AND EVIDENCED CHIEFLY BY "PAIN."

The *very* early removal of the entire gland of the breast in cases of suspected cancerous disease is, at the present date, a question which is *sub judice*. It is my purpose in this short paper to report several cases in which I have performed this operation, cases in which the predominant symptom has been severe and characteristic pain, and in which the microscopic examinations have proven the correctness of the diagnosis, and also in which the result obtained has been an absolute cure, and to add some remarks based upon the cases.

*Case I.*—Mrs. M. C. B., widow, mother of several children, age 66 years, consulted me in April, 1879, as to a small growth located in the gland of the right breast. In size it was nearly as large as a pullet's egg, had been growing for some four months, and, when first discovered, was about one-fourth the size to which it had attained when I first saw the patient.

The history of the case was that of a blow, sustained some four months prior to April, a slight pain and tenderness following for a few days, subsidence of these symptoms for three or four weeks, and then, at first, occasional, but soon more frequent, sharp, lancinating pains, which increased as the growth increased, and, finally, compelled her to seek advice.



My diagnosis was carcinoma, affecting but a small part of the gland, which was perfectly movable over the pectoral muscle, the growth extending toward the surface of the breast, near to, but not actually implicating the skin. The patient was rather fleshy, and in excellent general health. Total amputation of the breast was advised and performed on April 30th under antiseptic precautions.

The breast was large, but no difficulty was experienced in obtaining sufficient healthy skin to cover the muscle, and the wound healed quickly.

Patient recovered, and continued in perfect health for three years and eight months, and then succumbed to an attack of double pneumonia after an illness of three days' duration. The microscopic examination showed that the diseased growth was medullary carcinoma.

*Case II.*—Mrs. W., married, had had but one child, and that some sixteen years previously. Age, 43 years. Of full habit and the picture of health, consulted me in October, 1884, as to a slight enlargement of the right breast (I would here state that both breasts were normally very large and almost burdensome), and also as to frequent lancinating pains through the breast.

Examination elicited the following history: Has always been well and led an active life. During the past two years menstruation has been scanty, and consequently a plethora of the cranial vessels, at times accompanied by dizziness, had frequently existed. Some three months previously had slipped and fallen with considerable force against the back of a large chair, striking directly upon the outer surface of the right breast. The immediate pain and tenderness caused by the blow subsided within a few hours, and nothing was thought of it until some three or four weeks later, when pain returned and gradually increased and assumed the sharp, lancinating character so common in malignant disease of the breast.

The slight increase of size was perfectly symmetrical.

On careful manipulation it was found that the *central* portion of the gland was hard, and evidently the seat of the disease. The pain was increased by pressure. The breast was perfectly movable. No retraction of the nipple, or any approach to involvement of the skin or the pectoral muscle existed. No enlargement of the axillary glands.

Diagnosis, carcinoma or scirrhus.

Prognosis excellent, provided total amputation were submitted to.

On Nov. 8th (some ten days subsequent to my first seeing the case), I removed the entire breast, going down to the sheath of the pectoral muscle. Did not remove any of the axillary glands, as I felt certain that they were not involved in the disease. The

operation was performed antiseptically, and the flaps carefully adjusted and sutured with carbolized catgut.

On account of the large size of the cavity, a small drainage tube was left in the lower angle of the wound. This was removed at the end of the eighth day, all oozing having ceased, and the wound healed at once. The patient recovered rapidly, and has continued in perfect health up to the present time—a period of three years and four months.

The specimen was examined by Dr. H. C. Coe, and I here read the conclusion of the report: "There are no signs of degeneration; in fact, the tumor seems to be at a comparatively early stage of development. The appearances are such as to warrant the diagnosis of scirrhus cancer with an immense overgrowth of the fibrous element, and only scanty cellular formation." "This may be regarded (as far as microscopical examination shows) as a less malignant form of scirrhus than that in which the *cells* are more numerous and degeneration has begun. The return of the disease, after complete extirpation, at this early date is a matter of doubt. The prognosis ought to be rather favorable.

"The sections were compared with some made at the same time from an undoubted *scirrhus*. In many spaces the appearances were nearly identical."

*Case III.*—Mrs. B., married, 50 years of age, no children. Has always been a delicate woman, suffering from chronic bronchitis for many years. Some three months previous to my seeing her, on November 12th, 1884, she had received a slight blow upon the right breast. Some pain followed within a couple of weeks and continued at frequent intervals, finally becoming almost constant and characteristic in quality. Patient had lost somewhat in weight and strength.

Examination showed both breasts to be very small, the right, however, was slightly enlarged and painful on manipulation, and the first one of the chain of lymphatic glands extending from the breast to the axilla was also enlarged. There was no enlargement of the axillary glands and no implication of skin or nipple.

Diagnosis, carcinoma.

Prognosis favorable, provided total extirpation were done.

Operation on November 14th (forty-eight hours after first seeing patient).

Breast removed by making a semilunar incision at lower part of breast, in the natural crease formed by the hanging down of the breast, through the skin and cellular tissue, dissecting up the skin and enucleating the breast and lymphatic gland, thus saving the skin and nipple and causing practically no disfigurement. Wound healed at once under antiseptic dressings and, at the end of two weeks, patient was about the house. Patient has gained

in general health, and remains in excellent condition up to the present time (three years and four months).

The microscopic examination of the specimen was made by Dr. H. C. Coe (he being ignorant as to the location from which the specimen came) and is as follows.

"Size, 10x9 cm.; thickness, 0.75 cm.

"Microscopic examination showed the following appearances.

"1st. The basis-substance is a loose connective tissue, which in many places may be called 'myxomatous,' the meshes of which are filled with fat globules.

"2d. Numbers of acinous glands appear in the midst of the fibrous tissue, and into some of these ducts can be traced.

"3d. In many places groups of round cells of an embryonic type can be seen, not scattered about irregularly, but arranged in cavities or alveoli. These are not easily detached from the section.

"4th. There are no signs of degeneration in the specimen.

"Conclusions. This specimen is probably from the loose cellular tissue between the skin and muscles. It is well supplied with glands, which are rather larger than sebaceous glands, and closely resemble the acini of the breast.

"The collections of round cells are too regular to be leucocytes, are too large to be those of carcinoma (or epithelioma). There seems to be a regular stroma between the cells which is in favor of sarcoma. The diagnosis lies between carcinoma and myxosarcoma, the latter being more probable."

These three cases have been selected and reported in detail from the fact that they have all passed the usual limit of three years without any return of the disease in the original location, or development of any growth in any other part of the body; and they were cases in which the disease had really just begun, and in which the diagnosis was made principally from the one symptom *pain*. The only other point in the histories which indicated that the trouble might be malignant was this, that in each case an injury had been sustained by the breast.

During the past three years, I have operated similarly upon several other cases, all of whom are living and in good health at the present time.

The malignancy in each case has been demonstrated by the microscope, but as yet the accepted limit of non-return (three years) has not expired, and of course they are not as yet to be considered as cured.

Butlin, in his recent work upon "The Operative Surgery of Malignant Diseases," in speaking of the "percentage of cured cases" of the breast, says:

"I am therefore confident that we may regard operations for the removal of mammary cancer as successful in effecting a complete cure in rather more than ten per cent of all cases

treated." "I believe that a percentage of twelve to fifteen is nearer the truth."

This statement is based upon the analysis of some six hundred cases. These cases include *all* grades—from those in which the operation was done quite early in the disease to those in which, in the greater number of instances, it was done very late. He further states: "In the first place, while there can be no doubt that early operation is of the greatest importance in determining a favorable result, it is nevertheless true that many of the most successful cases were those in which the operation was long deferred." . . . "The tumors in these cases were undoubtedly tumors of mild or very mild malignancy, and the fortunate results are to be ascribed to this cause, but are not to be used to justify the delay of operations for cancer of the breast," . . . "and even such cancers, if they are left too long, establish such relations to the surrounding structures or to the lymphatic glands that they become as hopelessly fatal as the most malignant growths."

In reference to the removal of the axillary glands, he says:

"So far as the removal of the glands is concerned, by all means let them be removed when they can be felt enlarged, and appear to be within reach of removal, and, in cases in which there is a doubtful fulness which is not apparent on the other side, let the axilla be opened and examined. But let no theoretical considerations lead us further than this, and on no account let the axilla be opened in search of diseased glands of the existence of which there is not the least outward and palpable sign."

The points of interest in these cases are:

First. In each case the disease was the result of a direct injury occurring in a healthy person and in whom there was no hereditary predisposition to cancer.

Second. The diseased process began to show itself within a few weeks (usually from two to three weeks after the receipt of the injury), and in all the cases was announced by pain of a severe lancinating character which steadily increased in severity and frequency.

Third. In but one case (No. I.) was there a well-defined growth which by manipulation could be perfectly outlined. The other cases, as before stated, showed a general enlargement of the breast with but a limited induration, if any, near its base.

Fourth. In none of the cases had the disease advanced so far as to cause any of the constitutional conditions peculiar to cancer. The *pain*, of course, had caused a certain amount of suffering, but not sufficient to have made any decided difference in the general appearance of the patient. Under these circumstances, believing that the disease was malignant, but as yet simply local, I urged amputation, and I expected a permanent cure.

*Conclusions.*—First. The microscopical examinations of speci-

mens removed showed that in each case the disease was of a malignant character; and this being the case, the operation for total removal was certainly demanded.

Second. The exemption from a return of the disease in each case (for nearly four years in No. I., and then death from an acute disease, pneumonia, on the third day), for over three years in Nos. II. and III., and both of these patients now living and in perfectly good health, has proven the justifiability of the operation at its very early date.

Third. The removal of the entire breast before any constitutional infection had taken place, and before the chain of lymphatics leading up to the axilla, or the axillary glands themselves, had become involved, gives an almost certain result as to permanent recovery and absolute exemption from a return of the disease near its original seat, and also immunity from its production in other locations. I believe this fact was first clearly announced by Virchow in 1854 in the "Handbook of Special Pathology." He states his belief "that cancer is always primarily local in character, and that its dyscrasia is always secondary," and that "if cancer is at first, and often for very long, a local disease, it must be possible at this stage to cure it locally."

Fourth. More than this, I believe it perfectly justifiable to remove the entire breast in any case in which, as the result of an injury, the patient has been suffering for several months from frequent and severe pain, even if it is not always possible to discover, with perfect certainty, a growth in the gland. If there is an enlargement of the breast *as a whole*, in such cases the probability is that the disease is malignant; and the longer the operation is deferred, the greater the danger that constitutional infection will occur, and the prospect of a radical cure is thus diminished.

DR. McLEAN.—While most of us will agree with the reader of the paper, we should remember that there are a great many enlargements which are not cancerous, though they simulate that disease. An enlargement may be merely inflammatory, and such cases are so frequent that, in the interest of the woman, we should keep this in mind, so as not to do an unnecessary operation. I have seen a good many instances in which the diagnosis of cancer had been made, and in two cases complete amputation demanded. All of those cases are still living, the tumors have disappeared, showing there was no reason for the operation. Tumors may give rise to lancinating pains without being malignant, as proved by their removal without mutilating the breast, the patients remaining in good health for many years. Do not amputate on too slight an indication. Early amputation is not called for if there is merely enlargement of the breast. Particular care should be exercised about the time of the menopause, where enlargement occurs after traumatism. The microscope shows often that the structures are so dubious that we cannot be sure of the diagnosis; errors are made even by the most excellent microscopists, therefore the instrument is not infallible.



DR. GUNNING.—I remember several cases which were operated upon. One was in a woman, about 35 years of age, in whom the disease was due to a blow received from the pump handle of an old-fashioned well. She complained of pain, and the breast was removed after she had suffered for six weeks. The tumor was the size of a small pullet's egg. Nine years ago her sister, some three years after, met with a similar accident by falling from a ladder and striking her breast on a chair. She was likewise operated on, and remained free from recurrence about one year, then the disease returned and the patient died. I have had two other cases which were due to injury received on the railroad, and in which there was no recurrence; no microscopic examination was made, but there is no doubt that it was scirrhus cancer.

DR. CHAMBERS said that he believed in giving the woman a chance; if in doubt about the character of the tumor, the better rule to follow in the majority of cases is to remove it; if the operation be well done, there is but little deformity. Give the patient a chance of being free from malignant disease, free from anxiety; the tumor may be innocent, but it will be best to remove it.

DR. LEE.—Whenever a tumor is found in a patient where there is reasonable doubt of its being malignant, remove it. If anything is known of cancer by histological researches, it is that it is at first a local disease, the system is affected secondarily, and therefore the sooner a growth that is cancerous, though there may be much doubt, is removed the better. It is wiser not only to operate early, but wide of the local focus of disease. At it spreads from a nidus, the tumor should be removed as early as practicable and as wide of the diseased centre as feasible. Do not split hairs, but demand of the general profession that they send patients to surgeons whenever a doubtful case occurs.

DR. CLEVELAND agreed with the reader of the paper and with Dr. Lee as to early operation. He believed, moreover, that the incision should be extended into the axillary region, for he had seen cases in which no enlarged glands could be discovered, but on opening the axillary space a number of them were found. When a case of tumor of the breast is presented to the surgeon, and its character is doubtful, it should be removed, and that thoroughly. Dr. Janvrin had said, if the axillary glands are not affected, then the woman is likely to be free from further infection, yet there are other channels of infection, and though the axillary glands were not affected, cases have died of general carcinosis.

DR. MCLEAN thought he had been misunderstood; he had pleaded for removing the tumor, but not of the entire gland. Between thirty-five and forty years of age the whole mammary gland is liable to inflammatory enlargement so dense as to lead to mistakes in diagnosis, and though he would not hesitate to remove a tumor, he was opposed to extirpating the breast, except in case of *cancer*, when he would certainly remove the whole organ. In a word, he wished to discriminate between cases of *cancer*, which require early removal of the whole breast, cases of glandular inflammatory enlargement and hardening (sometimes mistaken for cancer) and requiring no operation, and, thirdly, cases of benign tumors, which ought always to be removed by non-mutilating operation, and *not* by amputation of the breast. There are tumors of the breast which simulate cancer, but do not require removal of the breast, though the tumor



calls for operation, since minor manipulations will do no good. There are benign tumors which ought always to be removed, for moral reasons if for no other.

DR. LEWIS (*present by invitation*) thought that the instances mentioned by Dr. Lee undoubtedly represented a certain proportion of cases of cancer, and those by Dr. McLean another. The general principle is not changed by such cases. Every one knows that the most serious cases we have to deal with in tumors are those which have been watched by physicians, and the patient advised to wait until the doctor was sure; they are of every-day occurrence. "A tumor in the breast: the doctor has seen it often, he does not know that it is cancer, he wants to wait and see." If we have a chance to remove a tumor when it first appears and temporize, we have a poor prospect of ultimate success. He fully indorsed what Dr. Chambers had said, to remove any tumor of the breast as soon as it occurs, unless it is something due to a recent traumatism. All the harm comes to the patients from waiting until they have reached that stage where cure is not probable. If we ever cure cancer by operation, it is in its early stage. Whether cancer is primarily local or not is still undecided, although he was inclined to accept the local theory. The drift of opinion, however, seemed to be in favor of the constitutional nature. Dr. Butlin believes that it can be cured by internal medication and constitutional measures. The question still remains doubtful; we do not know. As far as cure is concerned, that depends on the degree of malignancy and the time of removal. As to the partial operation performed by Dr. Janvrin, he was simply reckless in removing the tumor without the axillary glands. The tumor is liable to recur first in the line of the incision and secondarily in the axillary glands. There will be no recurrence in them if they are no longer there. It does not increase the danger of the operation to remove them; it is an easy thing to do. Besides, if we do not open the axilla, we do not know how many glands we have left behind. He remembered the case of an old lady where he thought there would be no necessity for the axillary operation, but after incision he found a number in the axilla and under the pectoral muscle which were infected. He never would dare remove a malignant tumor of the breast without examining the axilla; he would be ashamed of himself if he had not done so.

DR. JANVRIN, in closing the discussion, said that the inflammatory condition following a bruise of the breast would get well in a week or ten days under ordinary care and hot fomentations, if simply inflammatory. But when there has been an interval and secondary symptoms of pain come on, it is evident that something more than an inflammatory condition is present. And if the breast is enlarged and examination shows a growth or general enlargement, he suspects that there is a malignant disease beginning, and with that suspicion he feels justified in removing the entire breast. As to removing the axillary glands, he held that if the disease is of but a few months' standing it would not be justifiable to open the axilla to examine the glands; that is, if the disease is of short duration and still located in the breast entirely, where enlargement of the axillary glands was not even suspected, and both sides present the same sensation to the touch. He had operated in a great many other cases where he had followed the same course, and they were still living and in

good health. But if there is the least enlargement on one side, he would remove, not all the glands, but only those that were enlarged, for often the glands are healthy where the breast is diseased. He did not think it would be justifiable to operate where it is not necessary. It was said it was not dangerous, but why should there be additional shock? Where the disease was suspected to be simply confined to the breast, remove the whole mammary gland absolutely. Where the semilunar operation can be done he performs it, and as the nipple and skin remain, there is no disfigurement. To the best of his recollection, Butlin says that cancer is primarily local, not constitutional.

---

*Stated Meeting, March 20th, 1888.*

*The President, DR. H. T. HANKS, in the Chair.*

OVARIAN ABSCESS.

DR. H. J. BOLDT presented a specimen with the following history. The patient was a multipara, æt. 34, who had been perfectly well until two weeks previously, when she sustained a fall and lost a large amount of blood which was supposed to come from the uterus; there was no pain of any account. He was called to see her on the afternoon of the 15th, only on account of the weakness of which she complained, and found no rise of temperature, no increase in the pulse rate, and the general condition fair. External examination revealed only slight tenderness in the left ovarian region; the conjoined examination was painful. He discovered a mass the size of a fist near the uterus which he supposed to be either a small ovarian cyst or an enlarged tube, but its character could not be positively determined. The patient was allowed to rise and go about her household duties. At 11 P.M. of the same day, whilst retiring she fainted, and immediately afterwards had a very severe chill; he saw her about 1 A.M. March 16th, when the temperature was 107° F., pulse 180; examination was negative, except that the tenderness had become more general. He informed the husband that the tumor, the presence of which had been previously made known to him, had probably ruptured, and advised operation without much delay, in order to save life. Consent was refused. Appropriate treatment, viz., antipyrin, stimulants, and the application of the ice coil, reduced the temperature to normal, pulse 120 by 8 A.M.; operation was again refused, upon which Dr. Boldt refused further responsibility. On the evening of the same day, Dr. Polk saw her in consultation, but on account of the unfavorable surroundings and the lateness of the hour, it was thought best not to operate, but to take the chances with the adoption of the old plan of treatment for peritonitis. The patient, however, steadily grew worse, and died within twenty-four hours. At the autopsy the cause of death was shown to be rupture of an ovarian abscess. The case illustrated the folly of delay in these instances instead of performing the operation at once.

## FIBRO-CYSTIC TUMOR OF THE UTERUS.

Dr. Boldt presented a second specimen which he had removed the preceding day. The disease was of eight years' standing. The patient was 52 years old, and prior to the operation the tumor was believed to be a multilocular ovarian cyst with colloid contents, but proved to be a fibro-cystic uterine tumor. The operation was not complicated, the only trouble being due to laceration of the broad ligament, which gave rise to considerable hemorrhage. The stump was treated extra-peritoneally. He was called again at midnight on account of secondary hemorrhage, which he arrested after reopening the abdomen, and the patient was at present doing well; there was no rise of temperature, and the pulse was 76. The tumor weighed eighteen pounds, the largest of the kind he had seen in his own practice. Microscopical examination by Dr. Heitzmann showed the tumor to be a myxo-fibroma.

DR. JANVRIN asked what the diagnosis had been in the last case.

DR. BOLDT replied that it was considered to be a multilocular ovarian cyst with colloid contents.

DR. ABBOTT inquired when the hemorrhage had occurred in the first case.

DR. BOLDT.—Two weeks prior to the fall. In answer to a question by the President he added that an ovarian abscess might exist without manifesting any symptoms whatever. His examination might have had something to do with the rupture, but he had not used much pressure on account of the tenderness.

DR. NILSEN recalled a case in which curetting of the uterus was followed in one week by the rupture of a pyo-salpinx, and he had been in doubt whether the curetting had had anything to do with this result. The tube had burst in the morning, and the patient died during the night. Laparotomy had not been allowed before nor after the accident. The tube and ovary, removed post-mortem, resembled Dr. Boldt's specimen. The first abdominal section he had ever performed was one resembling Dr. Boldt's second case. The tumor weighed 57½ pounds, and the patient died on the sixth day in uremic coma. In both kidneys were found many large calculi.

DR. JANVRIN.—Dr. Boldt's case reminds me of one I had some time ago which was supposed to be a large monocyst of the ovary, but on opening the abdomen it proved to be a large fibro-cyst of the uterus weighing about 30 pounds. It was attached to the fundus of the uterus by a pedicle from 1½ to 2 inches in width and about 2 inches in length. The patient recovered.

DR. BOLDT dwelt on the difficulty of making the differential diagnosis between fibro-cyst of the uterus and an ovarian cyst, unless the tumor was small. The difficulty increases with the size of the tumor, so that at times it becomes impossible to draw the differential line. He wished some of the members would enlighten him on the subject.

DR. NILSEN thought that the depth of the uterine cavity, of

which Dr. Boldt had spoken, was a guide of not much value in many cases. In his case mentioned, the cavity measured only about three and one-half inches, yet the tumor had proved to be a uterine fibro-cyst, although it had seemed unmistakably an ovarian cyst. The operation proved a stupendous undertaking. The numberless and extensive adhesions exhausted absolutely the large supply of catgut and silk. He then referred to the sudden distention of all the pelvic blood-vessels after removing such an enormous mass. Some German operator, whose name he did not remember, often straps a hard pillow upon the abdomen to prevent cerebral anemia resulting from the hyperemia of the pelvis.

DR. ABBOTT said that after the termination of an ordinary labor there was likewise a sudden relief from pressure, but no such measures were necessary.

DR. NILSEN thought there was no analogy between these conditions. Gestation was a physiological process, the growth of such a tumor was not.

THE PRESIDENT added that an essential difference was the fact that infants did not weigh as much as these tumors.

#### CALCIFIED CYST.

DR. J. R. NILSEN presented a cyst the size of an ordinary orange, studded with several calcareous nodules, and suggested for discussion the origin of calcification in tumors. The cyst presented was removed about three weeks previously with great difficulty, having been deeply imbedded in the pelvis; during the operation, the mesentery was torn, causing several vessels to spurt. The patient recovered. The cyst was studded with small chalky nodules resembling mushrooms in shape. In fibroid tumors, the calcification proceeds in lamellæ, and occasionally their capsules undergo this degeneration, but he had never seen anything similar to the specimen presented. The only case of extensive calcareous degeneration of a cyst he had seen, was one where he had assisted Dr. Skene in the removal of a cyst weighing forty-seven pounds. A large portion of the sac was calcified to the thickness of one-quarter of an inch and very brittle.

#### LAPAROTOMY FOR REMOVAL OF THE APPENDAGES—DEATH FROM ETHER (?).

DR. A. P. DUDLEY reported the following case:

Mary A. L., born in England, æt. 28; mother died of phthisis, æt. 35; father healthy, died at 50; patient had been married seven years.

She was well till second baby was born, three years after marriage. Was attended by a midwife who forcibly pulled the placenta away. From this time she dates her troubles. Baby born in July, 1883. Went about for six months. In 1884, she caught cold at her period, had peritonitis and was confined in the house six weeks; had a relapse and went to the Presbyterian Hospital; was there four months very sick. After the third baby, in October, 1886, she developed peritonitis, at the eighth day; the

fifteenth day she went to St. Luke's Hospital, and remained there ten weeks. Dr. Hayes was first called to attend Mrs. L. in January, 1887. He treated her for ovarian neuralgia and prolapsus uteri. She got much better. He had since attended her for pleurisy, and three times for peritonitis and cellulitis. She suffered considerably from endometritis and had a lacerated cervix.

On the 19th of February, 1888, Dr. Hayes was called for the third time to attend Mrs. L. for peritonitis and intense pain in right ovary. When the inflammation had subsided, he advised her to have her cervix sewed, and she agreed to have it done.

He first saw the patient more than two weeks before with Dr. Hayes; she had suffered from peritonitis, the uterus was retroflexed and the cervix lacerated. She was in feeble condition, and after examination he did not think it safe to operate on the cervix; aside from the fact that the laceration had healed, there was no erosion, and the angles of the tear were soft. He discovered, however, an enlargement on the right side which was very tender, and which he believed to be the right ovary, and he had advised its removal as being more likely the cause of her symptoms than the laceration. The husband consented, and on the 11th of March he operated with the assistance of Dr. Hayes. Dr. Hayes had attended the patient for some years; she had suffered from palpitation, but no disease of the heart had been discovered. He gave the patient ether; she took it well, complaining only of pain in the heart, which was ascribed to nervousness. The patient being very thin, it took only a few minutes to open the abdomen. The right ovary was bound down in Douglas' cul-de-sac, and bands of adhesions fastened the omentum to the whole upper surface of the tube. It was got out after a little effort, ligated off, and removed without accident. It was then noticed that the patient was cyanosed, but, as she had attempted to vomit, this was ascribed as the cause, and more ether was given to stop it. The left ovary was then searched for and likewise removed. The operation was finished in forty minutes, and the patient was put to bed in good condition, except that the pulse was too full, being 112 and steady, but she was breathing well and was left in charge of a trained nurse. Only hemorrhage and shock were anticipated, and brandy was ordered. The husband called him about six o'clock and reported that his wife was suffering greatly. Dr. Dudley responded, fearing hemorrhage, but when he arrived, the woman was dead. She had not come out entirely from the ether. At the autopsy, one hour afterwards, the peritoneal cavity was found perfectly dry, the stumps white, no oozing. Indeed, all the symptoms pointed only to the heart, the patient having been cyanosed. The heart was presented; both cavities were full of blood, showing that it had stopped in diastole; the clots it contained were pale, and Dr.



Porter, of the Post-Graduate School, said that some of them were post-mortem clots. The specimen showed that the patient was suffering from endocarditis, as indicated by deposits on the valves, the disease having affected mainly the right auricle. Dr. Dudley had never seen an auricle like that before. The muscular layer of the auricle had almost entirely disappeared. He ascribed the fatal termination to failure of contraction in the right side of the heart, causing venous stasis of the entire body. He asked the members of the Society what was the immediate cause of death. He believed it was partly due to the use of the anesthetic and failure of the heart to throw the blood through its right side. Before operation, he had listened and found no murmur, and thought it safe to give ether. Dr. Hayes likewise thought there was no danger. He would ascribe the fatal issue to the anesthetic in a heart too feeble to carry on the circulation. He desired an expression of opinion from the fellows as to whether he was at all to blame for the result.

DR. GRANDIN thought that Dr. Dudley could not be held responsible for the fatal result, seeing that our usual methods of examination had not revealed the condition of the heart.

DR. NILSEN had had somewhat similar experiences, only they did not terminate in the same way. He asked if it was not a fact that there had been in New York as many deaths from ether as from chloroform. In the case quoted with calcareous cyst, he had operated under chloroform, which in many respects he preferred to ether. The patient was exceedingly nervous and hysterical, and when she had inhaled perhaps two drachms, respiration ceased and she looked like a corpse for some time. Respiration was, however, re-established, and the operation was continued under ether. He saw interesting points of resemblance between his and Dr. Dudley's case. As in the latter, the specimen showed degeneration of the muscular structure of the heart, the most likely cause of the patient's death; so in his own case also, the dangerous symptoms may have been due to some form of degeneration of the heart, and very likely was, since calcareous infiltrations are always evidences of impaired vitality and directly due to disorganization of the circulatory apparatus or the blood itself.

DR. JACOBUS inquired if the patient had ever had rheumatism, for, in that event, the death was not to be charged to the ether, but to the serious lesion of the heart and shock. There was pleurisy—

DR. BOLDT.—And degeneration of the muscular structure of the heart.

DR. JANVRIN thought Dr. Dudley was not to blame for the death. There was enough disease of the heart to account for the fatal issue, whether chloroform or ether was given.

DR. DUDLEY, in closing the discussion, said he had first given a few drops of chloroform, then ether, and large doses of whiskey. The anesthetic must have caused paralysis of the heart, thus preventing the aëration of the blood. In regard to the clots, his own impression was that the pale ones were ante-mortem. He could hardly conceive of such clots forming one hour after death.



## MATERNAL IMPRESSIONS.

DR. J. N. FREEMAN related the following case: A woman, aged 33, of nervous temperament, was married last spring. She was in the habit of wearing a bracelet with a bangle attached to it. A week ago he delivered her, and the child had hanging from each little finger, by a small pedicle, a sort of rudimentary finger, resembling the bangle worn by the mother. The specimens were presented as having a possible bearing on the subject of maternal impressions.

DR. ABBOTT inquired if there was any history of a similar deformity in the family, and was answered in the negative.

DR. G. A. KLETZSCH read a paper entitled:

## CLINICAL REPORT OF TWO CASES OF EXTRAUTERINE PREGNANCY.

Mrs. C. L., æt. 23, entered the Woman's Hospital in April, 1882. She had been married three years, and was never pregnant. She complained of being sick since puberty. Her periods began with her fifteenth year, preceded by severe pains, and at times passed shreds of membrane. She had had attacks of menorrhagia, lasting two weeks, with profuse flow. Frequent attacks of migraine.

On entering the hospital, she complained of backache, pain in the right side and hip, extending down right leg.

*Diagnosis.*—Anteflexion, chronic endometritis.

She was treated with applications of iodine to the vault of the vagina, glycerin-tampons, applications of pure carbolic acid to the endometrium, and the uterus was occasionally replaced on the sound.

She was discharged from the hospital June 19th, 1882, improved.

On April 5th, 1886, she consulted me at my office. She complained of delicate health, dysmenorrhea, sterility. Her menses were too frequent, profuse in amount, and with severe pain either before or during the period. Occasionally she passed shreds of membrane. Exercise gave her pain in both sides and hips. No vaginal discharge.

Examination showed uterus to be anteflexed. Left ovary prolapsed and tender.

April 23d, she had a period; duration five days, amount profuse, no pain. Preceding period very painful.

May 17th, had a period, duration four days, amount small. Preceded and accompanied by severe pain over uterus, with clots and cramps on third day.

On May 28th, with the patient under the influence of ether, and assisted by Dr. Coe, I dilated the os uteri internum, and made an application of pure carbolic acid to the endometrium. I kept the patient in bed for one week afterward, on hot vaginal douches. She had but little pain, and only a slight discharge of blood.

The following period came on June 15th, lasting only a short time, and with as much pain as ever before.

Examination on June 21st showed slight antelexion of the uterus, the internal os allowing a Peaslee's sound to pass easily. She had no leucorrhœa. Complained of backache and pain in left side.

July 10th, period commenced; duration seven days, amount profuse, with cramps and pain in left side at beginning of flow.

July 29th, I examined her just before she left the city for the summer, and found, beside the antelexion, a large, tender ovary on the left side, which, on pressure, gave her pain in the groin and left hip. She complained of soreness in the left side, and pain in the left leg, especially on stepping.

September 2d, she had her period; duration five days, amount profuse. Bearing-down pain one day before and the first day of the period, with cramps and clots during period. Profuse leucorrhœa followed the period. Examination showed that the mass on the left side had increased in size, and was very tender. A mass was also felt in the posterior cul-de-sac and to the right side.

September 21st, she complained of profuse leucorrhœa, and pain in the right side and hip. Period due on 30th inst.

September 27th, she had nose-bleed, dizziness in the head, black before the eyes, and felt tired and weak.

October 11th, has had no period yet, and complains of pain in both groins.

Examination shows that the mass on the left side has slipped into the posterior cul-de-sac, and is very tender.

October 21st, has had several fainting spells.

October 23d, period commenced, lasted seven days, amount considerable. Last three days accompanied by severe cramps and uterine colic. The discharge consisted of black blood. She complains of pain through the pelvis, headache, and nausea.

November 4th, the flow commenced again, lasted three days, amount profuse. Severe dysuria, sore feeling in the left groin, extending into the left hip and down the leg are the present symptoms.

Examination shows: The uterus is pushed to the right side; a very tender mass on left side of uterus. The left ovary is far down in the posterior cul-de-sac. The right ovary is also prolapsed, and can easily be felt, enlarged and tender.

Patient complains of nausea, tender breasts, and vesical tenesmus.

November 14th: Flow of blood continues daily. Some days saturates two napkins. Blood is very dark. Patient feels best when there is a free discharge of blood. She complains of pain in the left groin and hip.

Examination shows: Uterus is forward, and pushed to the right side; the fundus is tender on pressure, and seems large and soft. Both ovaries are enlarged and tender; tubes seemed involved on

both sides. Introduced a Simpson sound gently into the uterus, and as it passed the internal os, it gave her intense pain.

November 25th: Patient removed to Hoboken. She thinks herself pregnant. Complains of nausea, enlarged and tender breasts, vesical irritability, and a daily bloody discharge.

Uterus is enlarged, tender, and pushed to the right side; a distinct large mass is felt lying to the left side of the uterus, tender on pressure, and boggy.

January 1st, 1887: Daily discharges of blood continue. About Christmas time, the flow was accompanied by severe colic, bearing-down pains, and she passed some shreds of tissue. Extreme vesical irritability. Patient has been constantly in bed, feels very weak, and faints easily. Complains of pain all through pelvis, and loss of appetite.

Examination shows: The mass on the left side of the uterus has increased in size, pushes uterus to the right side, and encroaches upon the bladder. Right ovary is large, tender, and prolapsed.

March 10th, 1887: Patient had a period five weeks ago, duration three days, amount considerable. Clots and cramps with the period. She has had no *regular* periods since September, 1886. Abdomen is perceptibly enlarged on the left side. Has fainting spells.

March 20th, period commenced, duration four days, amount considerable. Flow free, but with bearing-down pain before and during the flow.

April 11th. Examination shows: Mass on left side not larger; there is a distinct line of separation from the uterus, the mass is movable, but cannot get fluctuation.

April 16th, period began; duration four days, considerable in amount, with bearing-down pains and cramp. Blood very black. By rectal examination, a large artery can be felt running along the lower border of the mass on the left side. A probe passed into the uterus gave extreme pain, but its course shows uterus to be to right side. Dr. Coe and myself now entertained the suspicion that the case was one of extra-uterine pregnancy.

Dr. J. B. Hunter saw the patient on June 8th, and advised explorative incision.

June 10th, put the patient under the influence of ether, Dr. Hunter and Dr. H. C. Coe being present, the latter assisting. Incision made in median line. Peritoneal cavity easily opened. Found the omentum firmly attached to the mass on the left side, so that a hole, large enough to explore through, had to be torn in it. A large mass was found in left side, firmly attached to the anterior and left wall of pelvis, pressing the uterus to the right side and downwards. Another large round mass lay deeply in the pelvic cavity to the right side and posteriorly, and was firmly adherent to neighboring tissues. Both masses were attached, respectively, to the left and right horns of the uterus. On consultation, it was

deemed best to find out the nature of the left mass, as tubal pregnancy was suspected. By using great force, it was torn gradually away from its attachments, the one to the left pelvic wall being tied off to prevent hemorrhage. At this stage of the operation, the sac was ruptured, which then disclosed the fetus, and consequently proved it to be tubal pregnancy. The sac was then tied off from the left horn of the uterus, and removed entirely. There was but little hemorrhage. The shock to the patient was severe. The pelvic cavity was thoroughly cleansed, a drainage-tube was left in, and the abdominal wound was closed around it. Patient put to bed in a critical state. Pulse hardly felt at the wrist. Violent retching soon set in, no food could be taken by the mouth, and all nourishment had to be given by enemata. The heart's action remained weak, and the patient never rallied from the shock of the operation. She had suppression of urine on third day, with high rise in temperature, and death followed on the morning of the fourth day after the operation.

Autopsy by Dr. H. C. Coe, twelve hours after death. No evidences of peritonitis present. No hemorrhage. Stumps perfectly clean. Pelvic organs removed *en masse*, and are here presented. Examination of specimen removed at operation: Total weight  $9\frac{1}{2}$  oz.; weight of fetus  $1\frac{1}{2}$  oz.; weight of sac  $3\frac{1}{2}$  oz.; placenta with blood-clot  $4\frac{1}{2}$  oz.; length of fetus  $5\frac{1}{2}$  inches; age of fetus about 14 weeks.

Dr. Coe thought from an examination of the specimen that the fetus had reached the middle of the third month, its length being  $5\frac{1}{2}$  inches, the sexual organs differentiated, and ossification in the occipital and frontal bones being evident. From its shape it was clear that it had been exposed to considerable pressure for some time. With regard to the blood-clot that was found at the time of the operation, and by which the fetus had been compressed, he thought that it constituted pretty clear evidence of the following facts: That the blood escaped slowly and principally from the detached placenta; perhaps there was originally only a small opening in the tube, which gradually became larger. The fact that the blood-clot was so circumscribed and firmly adherent to the wall of the tube on one side and to the placenta on the other, showed that there was no sudden, large rent in the tube accompanied by extensive loss of blood; the hemorrhage had taken place between the layers of the broad ligament. It was to be noted (1) that the *proximal* half or two-thirds of the tube only was involved, the distal end with the fimbriae being clearly traceable; (2) that the left ovary was not found either at the time of the operation, at the autopsy, or in subsequent examinations of the specimen; (3) on the right side were a pyo-salpinx and an intra-ligamentous ovarian cyst (specimens of fluid were removed by puncture). In conclusion, there was no evidence of suppuration noted at the time of the operation, and from the dryness of the

clot, the compression of the fetus, and above all the perfect isolation of the mass, it seemed as if it might have been retained in the abdomen for an indefinite period without in itself giving rise to serious or dangerous results. Perhaps the case would have terminated (if the patient had not been carried off by an attack of peritonitis) in the same manner as the one reported by Dr. Coe at a recent meeting of the society, *i. e.*, by desiccation of the fetus and ultimate discharge of the bones through the vagina.

The following deductions were allowable:

*a.* Had the ovaries and tubes been removed, which operation was under consideration, the patient would not have run the risk of abnormal pregnancy taking place.

*b.* The favorable result of conception following dilatation, after she had been sterile for seven years.

*c.* The fetus in the tube grew to fourteen weeks, and dangerous hemorrhage from tube did not occur, in consequence of which no positive diagnosis could be made of the presence of tubal pregnancy.

*d.* The enlarged ovary on the right side grew to a cyst under the influence of pregnancy, this causing increased congestion.

Mrs. L. B. entered Woman's Hospital, in June, 1884, was under Dr. Thomas, who operated upon her for extrauterine pregnancy. He removed the dead fetus and sewed the placenta into the abdominal wound, where it gradually broke down and was removed through drainage. Patient made a very good and uninterrupted recovery.

She was very well after the operation. For the first four months had no periods, but after that they were regular, duration five to six days, amount considerable, with bearing-down pains on first day. General health very good.

Patient first came to my office on October 15th, 1887. Her last period was August 30th, duration one day, scanty, no pain. For the last two weeks complained of nausea, pain in the back, and feels as if lower part of stomach was larger than formerly.

*Examination:* Uterus movable, large and to the left side. No pain around uterus.

On October 20th, she had slow labor pains on the right side for about two hours, followed by slight discharge of blood, with bearing-down pains.

On October 22d, had sudden extreme pain in the right side, followed by general prostration, cold sweat, vomiting and retention of urine, with frequent desire to urinate and tenderness over abdomen.

The following day, the patient had slight recurrent attacks of the pain, especially on right side, and followed by faintness and general prostration. Some bloody discharge from uterus.

October 27th. Examination shows a distinct mass attached to the right side of uterus, very tender; uterus pushed to left side and large size, cervix soft.

Without any cause she had extreme pain low down on the right side, followed by cold sweat, feeble pulse, and rectal and vesical tenesmus. Slight discharge of grumous blood with an occasional labor pain.

Dr. Coe saw patient on October 29th and agreed with me that the condition was extrauterine pregnancy; she had gradually recovered from the effects of last two days. He also found the uterus pressed to the left side and enlarged; there was a mass extending to right side as large as a small orange, tender and soft.

Dr. Hunter saw patient on October 31st, found the uterus enlarged, pressed to left side; a soft, tender mass on right side of uterus. Advises faradic current.

Patient complains of recurrent short attacks of pain on right side, lasting for about one hour, very sharp and shooting. For last few days these recurred about twice daily.

November 1st, made first application of faradic current, one pole over abdomen, the other pole against cervix. Duration ten minutes.

November 2d, another application of electricity. November 3d repeated application again, always with good effect.

Has had no attacks of recurrent pain since application of electricity. Pulse 86, temperature 99° (mouth). General condition fair.

On November 4th, complained for the first time of a dull aching pain on the right side, extending down the right leg to the knee. Temperature 8 P.M., 100 $\frac{2}{3}$ ° F., pulse 108, feeble. Slight acid discharge from the uterus of bad odor.

November 7th, temperature to date varies below 100° and 101° F., P. 100 to 102. Pain in side continues. Bad odor of discharge from uterus.

Examinations shows the uterus movable, large, and boggy, tender on presence; tender, soft mass to right side of the uterus, along its lower border the pulsation of an artery can be felt distinctly. Complained also of cold perspiration, headache, and faint feeling, tongue furred.

November 8th, Dr. Hunter examined her and found condition same as before, thought she had septic trouble. He advised waiting before performing laparotomy.

On November 9th, had free and profuse bloody discharge, with uterine colic.

Dr. Coe made another examination and thought that the tubal pregnancy was surrounded by an exudation or a coagulum of blood, which had escaped slowly from the ruptured tube. He advised temporizing, with the view of operating promptly if urgent symptoms appeared.

From November 10th to 17th, inclusive, the temperature ranged between 100.5° and 103.5°, with pulse up to 140 per minute. Has had some tenderness over abdomen, and tympanites. Dysuria,



faint feelings, constant dull aching in right side, with occasional lancinating pain through to rectum.

On November 26th, Dr. Hunter found a distinct mass on the left side, probably the remains of the hematocele, and another mass extending from right horn of uterus to right side, the tubal pregnancy. There is still an evening rise in temperature and pulse runs up to 120, at times.

December 1st, symptoms gradually began to improve. Temperature still runs up to 101°, P. 120, but general condition better.

December 15th. Temperature normal in the morning, with a slight evening rise. Still severe pain in right groin. Examination shows same condition of the masses, but they are more contracted.

Last examination made on March 3d, 1888. Uterus still slightly enlarged and displaced to the left side. A cord-like band extends to the right side from right horn of uterus.

DR. McLEAN said that his experience was confined to two cases which had been under his own observation, and both were treated with electricity, one with galvanism, the other with faradism. In both the disappearance of the tumor was gradual. There was something singular in the history of one woman: her first pregnancy had been complicated by placenta previa, her next being a tubal pregnancy. There was something more than accident about it; there existed, as it were, a tendency to implantation of the ovum in an erratic sort of way, something that leads to an abnormal pregnancy. It was worth noting that some women possessed this tendency.

DR. KLETZSCH wished to lay stress on the point that the first woman was married seven years before she became pregnant, and then only after dilatation. Here, too, there was a tendency to abnormal implantation.

DR. DUDLEY said that the first case, in the Woman's Hospital, had been under Thomas' care and had refused operative treatment. One point of interest was the ureter attached to the specimen. It was a rare thing for a patient to recover from extra-uterine pregnancy after hemorrhage had occurred. Of laparotomy after rupture only two successful cases had been reported in the United States.

DR. JANVRIN stated that his views on extra-uterine pregnancy had been presented to this and other societies. The first case reported this evening rather confirmed the idea he had ventured to express some years since as to how rupture begins. In a case reported two years ago, there was hemorrhage from a large artery which traversed the anterior portion of the sac; pulsation was distinctly felt; slight hemorrhage took place; he watched the case for some days and then used galvanism and killed the fetus; but the second day after, the patient had secondary hemorrhage and died before any physician could reach her. He referred to a specimen which Dr. Mundé had presented to the Society a year previously, where partial rupture of the sac had occurred, and the patient had died of gradual oozing before laparotomy was decided on. The specimen presented by Dr. Kletzschn showed, with its history, that the oozing was gradual. Oozing

first occurred from the distended surface; gradually, as the distention became greater, laceration took place, and the fetus died, about five months before operation was performed, from the pressure of the clot. Operation was indicated, and nothing better could have been done than what Dr. Klettsch did.

As to the second case, the diagnosis was clearly made out about the eighth or ninth week; it was made by the history of the case, by the enlargement of the tube, by the extreme tenderness which is one of the characteristic points. The question is, the diagnosis being made as it was, whether it was better to use electricity or to perform laparotomy. In the United States, as Dr. Dudley remarked, there have been but two successful cases operated upon after rupture of the tube; the third successful case in North America occurred in Canada. Mr. Tait claims he has operated thirty-six times during the past three and a half years, with thirty-five recoveries. In several of his cases as reported—rather imperfectly—no fetus had been found; there was hematocele and he had found a lacerated tube. In Germany, we have learned from reported cases and from Dr. Martin at the last meeting of the American Gynecological Society, that it is and has been for several years the custom to operate in all cases where the diagnosis has been established by the presence of severe hemorrhage, and the results have been good. Laparotomy for a well-marked rupture of a tubal pregnancy is always indicated. Of course, some cases will recover without it. In some, as Dr. Klettsch's case, the clot had held itself in position, stopped the hemorrhage, and the patient might have lived. Where the hemorrhage is so great that the patient's life is in danger, follow the example of Tait and Martin, perform laparotomy, cleanse the cavity, etc.

As to the other point brought forward recently by himself, can these cases be diagnosed before absolute rupture takes place, before there is even a hemorrhage from the superficial vessels of the sac, and is it proper to perform laparotomy at that time, even as when absolute rupture has been diagnosed? he believed it was. Although in the use of electricity the fetus is killed, the mass remains there. A number of instances have been collected by Harris, in which there has been a good deal of subsequent trouble. If the diagnosis can be made out from the pretty severe attacks of colicky pain, which pain indicates slight hemorrhage and rupture of some vessel in the peritoneal covering of the sac (and this is apt to occur several times from the sixth to the tenth week of gestation), and before full laceration of the sac takes place with profuse hemorrhage, if from the rational symptoms and physical condition we can make an absolute diagnosis, we are justified in performing laparotomy at that time. That is something which as yet has not been done, but he could see no reason why it should not be. If we are confident of our diagnosis, let us cut down upon the sac before it has ruptured, as we do in pyo-salpinx. As for himself, in every case where he was sure that there existed tubal pregnancy anywhere from the sixth to the tenth week, in the absence of evidence of hemorrhage, but in the presence of the other symptoms, he would certainly resort to laparotomy rather than to electricity in any form.

DR. MURRAY inquired if pain was complained of in the iliac fossa and at the cornua of the uterus in the cases narrated by Dr. Klettsch; also, if extrauterine pregnancy could occur without

any symptoms being present, and how to differentiate hematocele from extrauterine pregnancy.

DR. JANVRIN added that the majority of cases were not recognized until rupture took place. In all of Tait's cases, rupture occurred before he operated. Dr. Janvrin had seen eight or nine cases, of which two were fatal. In all it was evident that there was something wrong about the pregnancy, hemorrhage, a mass near the uterus, etc. Often there has been a long interval in which the woman has been sterile. With this history he has been able to make out tubal pregnancy, but until within a couple of years he did not think of operating, and used electricity instead. All but three were treated in this way. The main symptom was colicky pain coming on at times, severe and at times causing collapse, and locally there existed fulness and tenderness; severe paroxysmal pain is not apt to be present unless there is hemorrhage.

DR. MURRAY had heard of three cases; in one rupture, which was fatal, occurred ten hours after being seen by the physician; the other two cases were not diagnosed until the patient was dead. The physicians were competent men. The patients had not complained of the slightest pain before examination; they were treated for other symptoms.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

---

*Meeting of Thursday, January 5th, 1888.*

*The President, THOS. M. DRYSDALE, M.D., in the Chair.*

DR. HIRST made some remarks on the construction of lying-in hospitals. He described the admirable floors and walls; the perfect system of heating and ventilating the new Sloane Maternity in New York, but criticised what he considered architectural faults, and exhibited a plan of his own in which these defects were avoided, as well as a very elaborate plan of the new Maternity Hospital in Bordeaux, constructed after the plans of Dr. Oré.

DR. PRICE exhibited an interesting group of small tumors; he had frequently called attention to mixed complications in tubal disease, pyo- and hydro-salpinx, ovarian cysts and uterine myoma. Martin gives seventy instances of complications in tubal disease.

### RUPTURED TUBAL PREGNANCY.

Mrs. S—, æt. 27 years; married ten years; never pregnant; patient of Dr. John Pearson. The doctor had diagnosticated ruptured tubal pregnancy and general peritonitis. The hemorrhage had been very great, and the anemia most marked. Abdominal section: general peritonitis, and adhesions with degeneration of

all tissues. Adhesions friable and cheesy; abdominal cavity full of clotted blood—in collapse at the time of operation. Incision and drainage; no attempt made at removal of sac. Died the following day. This was the most unsatisfactory operation I ever attempted—small room with one window, done late in evening, with patient in bed. As Mr. Tait says, "everything must be perfection itself to do good surgery." Notwithstanding this woman was far gone and seemed hopeless, I still reproach myself for not removing the sac.

#### DOUBLE HYDRO-SALPINX.

Mrs. B——, colored, æt. 32 years; married; one child nine years ago; patient of Dr. R. B. Ewing. The doctor had diagnosticated a large uterus and tubal disease. He had treated the husband for stricture. Double hydro-salpinx, general adhesions, no irrigation, no drainage, perfect recovery.

#### CYST OF BROAD LIGAMENT.

Mrs. W——, married, 28 years, no children. Two years ago I found a small tumor on left side in this patient, and urged its removal. Left side: large, broad ligament cyst lying on and adherent to anterior surface of bladder and adjacent parts, also upon and adjacent to large multilocular cyst of ovary. Ovarian cyst in posterior cul-de-sac generally adherent to adjacent parts, and intimately adherent to posterior surface of bladder. Right side: subperitoneal cyst size of egg, hydro-salpinx. Broad ligament cyst removed first, hydro-salpinx and subperitoneal cyst second, and left ovarian cyst third. Irrigation and drainage; no bad symptoms; recovery.

#### UTERINE FIBROID WITH DOUBLE PYO-SALPINX.

Mrs. P——, German, æt. 28 years; married twelve years; five children, youngest three years old; one miscarriage eight years ago. Diagnosis, fibroid uterus, double tubal and ovarian disease. Left side, pyo-salpinx. Ovaries and tubes on both sides removed; few and delicate adhesions. No irrigation, no drainage. Operator, M. Price.

#### DERMOID TUMORS.

Miss C——, æt. 27 years; complaining three years of pelvic pain and recurrent attacks of peritonitis; confined to bed seven times and treated for local peritonitis. The patient of Dr. Geo. Yeomans, who recognized a small pelvic tumor, and urged its removal. Operation, Dec. 25th. Right dermoid cyst about the size of an orange, adherent to omentum, bladder, and intestines; strangulated, turned on pedicle four times completely, dark in appearance, and required a complete enucleation. Left side: a dermoid cyst double the size of that on the right side, with co-existing ovarian cyst, strangulated, turned once on pedicle. No adhesions, chronic

peritonitis, considerable bloody effusion. Tumors and tubes on both sides completely removed. Irrigation and drainage.

#### OVARIAN AND DERMOID CYSTS.

Mrs. K—, æt. 31 years; married ten years, never pregnant. Six months ago I did a double ovariectomy on a sister of Mrs. K. Diagnosis, tubal disease. A long sufferer; she says from childhood. Right side: small dermoid lying on a cystic ovary; dermoid ruptured in removing. Left side: small ovarian cyst. Adhesions firm on both sides. Irrigation and drainage. •

#### OVARIAN ABSCESS.

Dec. 25th; Mrs. F—, æt. 32 years; married nine years, never pregnant. The patient of Dr. Donges, who had diagnosed ovarian disease. In bed for the last month, high temperature and severe pain, most marked in the right side; diarrhea. Day of operation, temperature was  $103\frac{1}{2}^{\circ}$ , pulse 146, general condition alarming. Operation: large abscess of ovary, right side; bowel adhesions necrotic; abscess ruptured in enucleation; surrounding parts cheesy; marked fecal odor; free irrigation; drainage; fecal odor from tube. Card from Dr. D., second day after operation: "Mrs. F. doing very nicely; temperature normal, pulse 92, no nausea." Fifth day: patient doing remarkably well; no change since last card, but steadily improving. Letter from Dr. D., Jan. 2d: "Mrs. F. is doing remarkably well." No opium after operation, notwithstanding it had been freely used before. General improvement, eating and sleeping well, convalescing rapidly. Tube out on fifth day.

DR. J. PRICE said the drainage tube should be removed as soon as the blood ceased to appear in the fluid which became scant and serous. He used a cotton rope in the tube—its withdrawal empties the tube, and cleans out the perforations which otherwise became clogged with lymph coagulations. He now never washes the tube out, but keeps it perfectly dry and clean by frequent swabbings with cotton and the re-introduction of the cotton rope, which acts as a capillary drain. After removing the glass tube, he always puts in a small rubber one which is gradually withdrawn and cut off inch by inch, especially in the treatment of pus cases. The drainage tube had an assured position in pelvic surgery.

DR. KELLY said I always deliver my tubes by steps where the tract has suppurated, but in the sweet recent cases, just mentioned by Dr. Price, I deliver at once, and close without fear as soon as secretion has ceased. The rubber tube is not necessary. Dr. Price has not in his history presented sufficient evidence to warrant the inference that the shriveled up specimen passed around is an extra-uterine pregnancy.

DR. PRICE remarked that if the incision was long, the toilet of the peritoneum could be carried out with a care that rendered the use of a drainage tube unnecessary in some few cases, but the long incision involved increased danger of hernia. The "three-stitch incision" requires the tube, perhaps for a day only, in cases which require enucleation, with tissues healthy. Dr. Homans, who made



a long incision, had nearly eight per cent of hernias; he had used drainage tubes in fifteen cases only out of nearly four hundred operations. You can single out the operators that use the drainage tube freely, by studying the mortality. Martin does not use the tube, and lost twelve cases out of seventy-two in operations for tubal diseases. When he ceased to save ninety per cent of his cases, he would give away his instruments. The use of the tube reduces the mortality wonderfully.

DR. B. F. BAER said he had never seen an ovarian abscess which had a pyogenic membrane. He does not think a drainage tube should be used in every case. It sometimes causes long-continued trouble from exudation of lymph around the tube. The tube is an irritant, and should be removed early. The management of the tube should never be intrusted to a nurse.

DR. HIRST exhibited a

HEART FROM A NEW-BORN INFANT SHOWING A VERY LARGE AND  
PATULOUS FORAMEN OVALE.

He thinks cyanosis rarely produced by this condition; the usual cause of cyanosis being pneumonia or atelectasis. The specimen was taken from an infant that lived forty-eight hours, the whole time deeply cyanosed. In this case, the foramen occupies nearly the entire inter-auricular septum, and shows no disposition to close.

DR. M. PRICE exhibited a

KIDNEY REMOVED IN CONSEQUENCE OF A PERFORATING BULLET  
WOUND.

The patient, a young girl, was handling the weapon when it exploded, the ball entering in front, on the right side, through the liver and kidney, and burying itself in the spinal muscles. At the time of the operation, twenty-four hours later, the pulse was 150, the temperature 102°, peritonitis had set in, and the patient was in a collapse. An incision, six inches long, was made, and arterial blood was seen escaping from the kidney, which it was thought best to remove. The liver wounds were dry and not oozing. Rapid improvement continued for nine days, but there has since been a rise of temperature, and now, the nineteenth day, temperature is 100°, pulse 108, and all doing well.

DR. WILSON spoke about the question of the compensatory action of the other kidney. Although this is sometimes quite sufficient, it is not always so, and the loss of one kidney is oftentimes a cause of death, the remaining kidney being unable to assume the functions of the one removed.

DR. KELLY said that Dr. Price would have to defend himself better for removing that kidney. The indication was almost as great for removing the liver which the ball had also traversed. The hilum was a half inch distant, and a suture would have been safe and checked hemorrhage. I thus stopped the flow following the puncture of a trocar in a case of hepato-phlebotomy, which I performed a few weeks ago. I think Dr. Price will find sufficient



evidence for this late rise of temperature in a focus of suppuration around the ball in the lumbar muscles.

DR. J. PRICE remarked that a large quantity of arterial blood had been voided from the bladder a few hours after the injury; this hemorrhage was irregularly recurrent, showing its kidney origin, and that large vessels about the hilum of the kidney had been wounded. Stitching of the kidney would not have been sufficient; incision and ligation was out of the question. All the indications were for removal. The diagnosis had been clearly made of renal injury.

DR. M. PRICE said that the kidney lay far up under the liver, and was hard to get at; that even if a suture could have been put in the anterior wound, it would have been utterly impossible to have reached the posterior one, excepting by another incision through the back; besides this, the blood welled up so freely that it was not possible to see exactly what he was doing, and he had to trust to his sense of touch. He could not account for the high temperature at this late date, excepting it be from the collection of pus at the end of the tube, which was not removed as it should have been.

DR. B. F. BAER presented the specimen, and read a report of the following

CASE OF TRAUMATIC HEMORRHAGE INTO AN OVARIAN CYST FOLLOWED BY PERITONITIS; OPERATION; RECOVERY.

E. D., *et. 45*, married; seven children, youngest seven years, miscarriage two years ago; had always, until the present trouble, enjoyed good health. In December, 1886, while engaged in rearranging her furniture, she lifted one end of a heavy chest. She soon after became conscious of a slight pain in the left ovarian region, but she continued with her usual work. That night, however, she was awakened by a sharp pain in this region, so severe as to cause her to "bend and writhe in agony." The pain extended down the left thigh and to the back, was accompanied with nausea and vomiting, and continued with great severity during the entire night before she obtained any relief whatever. On the next day, her entire abdomen had become very tender and swollen (tympanitic), but the severe pain of the night before had subsided. She gradually recovered from this attack, and was about again within two weeks, but she still had occasional attacks of sharp pain, and was treated for neuralgia. Soon after this, she noticed her abdomen was larger than usual. She had changed physicians, and was treated for "dropsy and worms" by free purgation. This greatly prostrated her, and caused a return of the pain and other symptoms of the first attack.

Dr. O. K. Adams was now called, and found the patient in great agony, the pain being most severe in the left ovarian region, but extending over the entire abdomen, which was tympanitic. The thighs were flexed, and her expression anxious. Temperature 103°. On the next day, it had risen to 104°. She remained very ill through the next few weeks, after which she gradually

improved. When the tympanites and tenderness had subsided enough to permit of an examination, Dr. Adams discovered a cystic tumor in the lower abdomen, which he correctly pronounced ovarian. As soon as she was able to be moved, the patient was sent to me.

On examination, I found the abdomen distended by a circumscribed mass about the size of the pregnant uterus of the sixth month, though not symmetrical, being more to the left of the median line than to the right. There was resonance over the entire surface of the abdomen, even over the tumor on light percussion. Deep percussion, however, gave a dull note. By palpation, the tumor was found to be fixed to the abdominal walls and deeply in the left pelvic region. Vaginal examination showed the uterus to be retroverted and the lower surface of the abdominal tumor resting upon it.

To the left of the uterus, a nodular mass was felt, apparently connected with the lower surface of the tumor. Movement of the tumor caused the uterus to move with it. Fluctuation was elicited by bimanual palpation.

I advised immediate removal of the tumor, although the patient had not yet fully recovered from the last attack of peritonitis; temperature still above  $100^{\circ}$ , sometimes  $101^{\circ}$  in the afternoon. This advice was based upon the recurrent character of the inflammation and its probable traumatic origin—twisting of a pedicle or rupture of a blood-vessel. Rupture of an extra-uterine gestation sac had been suspected, although signs of pregnancy had been absent. There had not been suppression of menstruation, but since her first attack of pain, her catamenia had been very profuse, lasting from ten days to two weeks.

Operation, March 15th, 1887. Three inch median incision; tumor everywhere closely adherent, but was finally enucleated after evacuation of its contents; pedicle tied, and mass removed; drainage tube removed on sixth day. Patient sat up on eighteenth day, and was discharged on twenty-eighth day after operation.

Examination of the specimen after the removal showed it to be a thin-walled monocyst. It was quite half-filled with a fibrinous material. This was not attached to the cyst-wall, and resembled coagulated blood in process of organization. The lining membrane of the cyst was smooth, except at several places, where a dilated vein as large as a quill was apparent. The knotted, irregular mass which formed the pedicle was the Fallopian tube and broad ligament. Why it was in this condition is difficult to determine, unless it was from twisting of the pedicle; but this could not be fully made out at the operation. The dilated condition of the veins in the cyst and in the pedicle, and the evidence of hemorrhage within the cyst cavity, as well as around the pedicle, render it probable that rupture of blood-vessels from stasis had taken place.

DR. B. F. BAER also presented the specimen, and read the report of

A CASE OF SO-CALLED OVARIAN ABSCESS; SMALL SUPPURATING  
OVARIAN CYST

occurring in a girl of 17 years of age.

B. C.— was sent to me on November 1st, 1887. Puberty was established at eleven years of age, or, rather, she began to lose blood from the womb at that time, for she has never normally menstruated. As a rule, there would be a metrorrhagia every ten days to two weeks, sometimes lasting a whole week, but usually only three or four days. No serious trouble attended this flow, except that she sometimes felt worn out, although it was not at any time excessive. At first, after puberty, the intervals were longer, but gradually decreased, until she was almost constantly flowing. She had never suffered much until last August, when she was taken suddenly with pain in the left ovarian region. The pain was sharp, cramp-like in character, and came on during the day, but she was not aware of any cause for it, such as over-exertion. The attack occurred a day or two after the cessation of one of these attacks of metrorrhagia. The pain increased in severity until it compelled her to go to bed, where she remained a week in great suffering, under the care of her physician. She continued in bed four or five days after the pain ceased. After this there was an interval of thirty days before the flow returned, the longest interval she had ever had. Then she began flowing again October 2d, and continued to flow for the next thirty days, at which time she first consulted me. Examination revealed the vagina rather patulous, cervix soft, and uterus occupying a position behind the symphysis pubis, where it was held by a tumor which occupied Douglas' pouch. The tumor extended as high as the superior strait, and seemed about the size of a fetal head. It was rather elastic, apparently circumscribed and fluctuating. I prescribed gallic acid for the metrorrhagia, and advised rest. At the next visit, I gave the patient ether, and determined that the tumor was almost certainly of a cystic character, and probably adherent to the posterior wall of the uterus and to the pelvic tissues generally. I advised its immediate removal, because of the grave symptoms which it had no doubt produced, and because of the fear of its rupture and possibly fatal injury to the patient.

She entered my private hospital on November 22d. Operation at 9 A.M., November 24th. An incision two inches in length was made in the usual position, and two fingers introduced into the peritoneal cavity. I found the omentum adherent to the posterior wall of the uterus and upper surface of the tumor. This I dissected off and found a tumor the size of a large orange, slightly flattened, occupying a position behind the uterus, extending to the left. It was adherent everywhere and seemed at first to be subperitoneal, but I soon discovered after beginning the separation of ad-

hesions that my diagnosis of intra-peritoneal tumor was correct. The adhesions were quite firm and it took me ten minutes of careful manipulation to entirely release the tumor, which I now brought up to the incision by placing two fingers under it; I next punctured it with a trocar and canula, and drained away about six ounces of thick laudable pus, when it readily passed through the incision. The tumor was of the left ovary, the pedicle was very small and short, consisting of the ovarian mesentery and ligament. I could readily have removed it without removing the tube, so free was it from adhesions to that organ. Indeed, the tube seemed to be entirely free from disease. The opposite ovary and tube were perfectly healthy, and were not removed. There was some hemorrhage, but it ceased after a little sponging, and the abdominal incision was closed, drainage being considered unnecessary.

The patient complained of great pain after recovery from the anesthetic. Four hours after the operation the temperature was 102°, and the pulse 148. This violent reaction was no doubt emotional, for as soon as the patient became quiet the temperature and pulse returned to the normal and did not again show the slightest indication of trouble. Her recovery was remarkably rapid and uneventful. She sat up on the eleventh, and went home on the seventeenth day after operation. Examination of the specimen shows it to be polycystic, the larger cyst cavity, which contained the pus, having a peculiar reddish, granular-looking lining membrane. At places papillary tufts are to be seen. The smaller cysts contained a clear fluid and have a smooth lining membrane. This case is interesting because of the early age of the patient, the early puberty, the frequent recurrence of the metrorrhagia, and the purulent character of the fluid contained in the cyst; the latter condition constituting what is commonly called ovarian abscess. This term is a misnomer. True ovarian abscess probably never occurs; that is, an inflammation in cellular tissue or stroma of the ovary, which results in "a collection of pus surrounded by a wall of lymph," the surgical definition of abscess. When a pus cavity is found in an ovary, I believe its origin can always be traced to a previously existing cystic degeneration of the ovary, the purulent formation being secondary.

DR. J. PRICE remarked that tubal disease may exist in virgins, the probable cause of infection being unclean hands and instruments of an examining physician. The small drainage tubes were introduced in London by Dr. Bantock, and were of seven different lengths. Dangerous rise of temperature certainly did at times arise in some cases from emotional causes, a good example of which he thought had occurred in New York at the Woman's Hospital. A patient was operated on in one of the cottages, and was doing nicely; during convalescence she was moved into the hospital much against her will, her temperature rose immediately and she died in a few hours.

DR. HIRST said that "emotional fever" was often observed after laparotomy. He had seen the temperature rise above 100° in an instant, because he had told the nurse in the hearing of the patient that "the stitches were to be removed to-morrow." He had seen some very extraordinary cases of emotional fever in the puerperal state, having more than once seen the temperature rise suddenly to 104°, in consequence of a fit of weeping. This phenomenon was not very uncommon in the Maternity Hospital, where the patients are for the most part young unmarried primiparae.

DR. KELLY observed that instrumental infection of a healthy woman is a very real danger to which many victims have been sacrificed. I advise aspirations in all small cystic tumors before proceeding to their delivery at the incision, in this way a certain proportion of lives will be saved by avoiding the frequently inevitable rupture, with an escape of poisonous contents amongst the intestines. A systematic use of the drainage tube is advisable, but not such tubes as are in common use. My friend, Dr. Dudley, of Chicago, uses a very delicate little tube, which can be slipped in between the sutures, and answers all purposes, especially used as I have long done, leaving in a piece of twisted absorbing cotton which carries everything up from the bottom of the tube by constant capillary attraction.

DR. DA COSTA remarked that he had used a tube with an outside diameter of only three-eighths inch four years ago, and did not then think there was anything new about it, as he had at that time bought it ready made from the shops.

DR. LONGAKER believed that many cases of diseased tubes were due to fitting instruments and careless manipulation. A case had come under his care, an unmarried woman of undoubted virtue, suffering from bilateral disease of the appendages. Her history was that of dysmenorrhea, for which the os had been incised. After this operation she was confined to bed for six months. Some months later, she came into his hands and was also seen in consultation by the late Albert H. Smith, who agreed in the diagnosis. The case passed out of his hands without operation. The conclusion that the operation was not done under perfect conditions is forced upon us, and also that by reason of this carelessness her condition was rendered worse than it had been.

DR. DRYSDALE, in reply to a question from Dr. Baer, said that often when the ovarian cells are crowded together the fluid will have the appearance of pus. The application of acetic acid will, however, always differentiate them from pus cells. Pus and ovarian cells could exist in the same fluid, but in cases where the pus cells became in excess, the ovarian gradually disappeared. A blow on the abdomen over the ovary has caused an inflammatory process, which resulted in an ovarian abscess. Dr. W. L. Atlee had always drained after serious operation; but, in his day, tubes had not been introduced, he had used tents.



## TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

---

*Stated Meeting, November 4th, 1887.*

DR. S. C. BUSEY, *President, in the Chair.*

DR. G. P. FENWICK reported three cases of

### PUERPERAL ECLAMPSIA,

as follows:

*Case I.*—I was summoned to the house of Mrs. E., at 7 o'clock, March 20th, 1884. I found her in a severe convulsion; she was about seven and a half months pregnant; her age was 20 years, and she had the appearance of being a strong and healthy woman; her face and hands were not swollen, and her lower extremities were very slightly so. The convulsion lasted about three minutes. While writing a prescription and sending for a lancet, Dr. Williamson came in (several physicians having been sent for). We concluded to bleed her. I bled her and drew about a pint and a half of blood; the convulsions were arrested at once. I remained till twelve o'clock. She continued in a comatose condition, with slight labor pains recurring about once in every forty or fifty minutes; the cervix was but slightly dilated, so I could hardly enter my index finger. We agreed to wait until the next morning, unless the pains should come on frequently or the convulsions return, which did not occur. The next morning we found her about the same as we left her the night previous, with the exception of the cervix being dilated enough to apply the forceps. We concluded to deliver at once, which we did after administering ether.

The child was still-born, and had the appearance of being dead some hours. We gave her the bromides during the night, and continued them every three hours the day after delivery. As there was a slight twitching of the arms, and sighing at times, we feared a return of the convulsions. The following morning her condition was about the same, her pulse being about 90 per minute, and temp. 100° F. She continued in the comatose condition, but when aroused would answer, although not intelligently, returning to her stupor. But her stertorous breathing had left, with no return of the convulsions. We gave her a mercurial purge and a fever mixture, and stopped the bromides except at night. March 24th, she had a high fever; her temperature was 103°, pulse 115 per minute, abdomen typanitic and



tender on pressure. Opium was given in one-half grain doses every three hours, and the fever mixture continued with the addition of eight drops of Spt. Terebinth. every three hours; poultices were applied to the abdomen.

For two days after delivery the urine was drawn off every ten hours, after which she passed it regularly. March 25th she was much better; the temp. was 100°, the pulse 90, and she seemed more like herself, the abdomen was less tympanitic, the secretions were more natural. After this she gradually improved and was placed on an iron tonic with a nutritious diet. For at least a month her mind was weak and a slight attack of mania supervened.

She did not remember anything of her illness and said it appeared as a perfect blank. She has since enjoyed good health.

*Case II.*—I delivered Mrs. B. about 5 o'clock A.M. May 10th, 1884. She had a very natural labor which lasted about four hours. I left her about 6 o'clock and made my second visit about 1 P.M. the same day. She appeared quite cheerful and there were no unusual symptoms, with the exception of a slight headache which I thought might be due to loss of rest. That night about 11 o'clock, when returning home from visiting some patients, I was called in haste to see Mrs. B. whom I found just revived from a severe convulsion. The nurse stated that after my last visit her headache had become more severe as night came on, and at 9.30 P.M. she complained of things looking dark in the room, with ringing in the ears and a slight nervous twitching of her arms. Soon after, a convulsion ensued. I did not see her until she had recovered from the third paroxysm. I sent at once for chloroform, and a mixture of bromide of potassium and chloral which I gave her, at intervals during the night, and whenever I noticed the approach of a convulsion I would apply the chloroform, not to the extent of anesthesia, but only to keep her slightly under its influence, and on several occasions I did keep off an attack. The reason I did not bleed her was that she had had considerable hemorrhage after delivery; also, she was very weak and did not appear to have enjoyed good health previous to her labor. May 11th, 11 o'clock A.M., she appeared about the same, her pulse was 110, temp. 100°. The convulsions continued about once in every three hours, but were kept under control by chloroform. The coma was so profound between the paroxysms that she could not answer questions or seem to recognize any one. She was perfectly unconscious. I procured a trained nurse, as some one had to remain with her constantly. Her urine had to be drawn off three times in twenty-four hours, vaginal injections of carbolic acid in water were administered every six hours. The bromides continued every four hours, alternating with fifteen drops of Ext. Jaborandi fluid. A purge was given of calomel and

jalapa, grs. viij. each. May 12th, her condition very little changed. The temp. 101, pulse 116, abdomen tympanitic, tongue very dry, pupils responded to light. Only two convulsions since my last visit, and they were slight. The same treatment continued.

May 13th. Condition slightly improved, but patient still very ill; temp. 100°; pulse 104; less tympanites; had no convulsions since last visit.

The bromides omitted; continued the jaborandi with a fever mixture.

May 14th. Condition more favorable; pulse 100, temp. 100°, skin and kidneys acting well; the abdomen very little swollen and softer. The jaborandi continued three times a day; the fever mixture continued with addition of digitalis. I must not omit to state that beef extract and milk diet were kept up from May 11th.

May 15th, she was much better; her pulse 90, temp. 99°. She would try to recognize attendants; could speak but little, and that incoherently. The jaborandi discontinued. The vaginal injections continued; the fever mixture continued at longer intervals. As she was very weak, the beef extract was given more freely.

May 16th. Continued to improve; could recognize and speak, but was very sensitive to the slightest noise in the street or in the house, so much so that I was compelled to rope the street. She was put on a nutritious diet with an iron tonic and made a rapid recovery.

*Case III.*—I was called to see Mrs. O. in haste, about 2.30 P.M., September 16th, 1887. Her age was 22 years, and she was not very robust; her face, hands, and lower extremities were very much swollen. She was about seven months pregnant. She was suffering with incessant vomiting and a severe pain in her head. Pulse about 60 per minute and weak. I sent for something to check the vomiting and ordered an enema. Had she been of a plethoric constitution I would have bled her at once. Before the messenger returned with the medicine, a slight convulsion ensued. I sent for sulphuric ether, and requesting the husband to get another physician, Dr. Bayne was called. He stated that her pulse was too weak and could not stand bleeding. The ether was administered regularly before and during each paroxysm. Gave bromides and chloral between the convulsions; cool applications to head during the intervals. She would relapse into a deep coma, and would answer inquiries if aroused and at once return to a stupid condition, with stertorous breathing; the convulsions at this time were frequent, about three in the course of an hour, but after 7 o'clock they did not occur more than once in an hour. About 9 o'clock symptoms of labor set in; the cervix was but slightly dilated, and we concluded to cause rapid dilatation with our fingers; and used hypodermic injections of

Squibb's extract of ergot. We finally succeeded in delivering her of a dead fetus about 12:30 A.M. the same night.

I will state that the convulsions ceased about 11 o'clock P.M., about one hour and a half before delivery. The ether was omitted as soon as the paroxysms ceased, but the chloral and bromides were continued with acetate of potassium. I remained with her all night and had the medicine given regularly. About 7 A.M., September 17th, she had another slight spasm and the ether was administered again. About 9 o'clock we made her sweat by applications of hot wet blankets and she perspired freely; about 2 o'clock P.M. the same evening, symptoms of great prostration took place; we ordered brandy and carbonate of ammonia every half-hour. She died from asphyxia the same night, about 9 o'clock. There appeared to be heart exhaustion and congestion of the lungs.

Continuing, Dr. Fenwick gave a history of the disease, its mortality, causes, and treatment.

DR. FRY, in opening the discussion, said: Although no new principles of treatment are advanced by the essayist of the evening, papers and discussions bearing upon the important subject of eclampsia are always welcome, since they serve to familiarize us with the treatment of the disease and prepare us to meet what is often the greatest emergency of the lying-in room. By these means a better knowledge of the pathology and treatment has been obtained. The empirical use of the lancet has been discarded and various methods of treatment substituted, which are based upon scientific principles. The result is a reduction of mortality. Whereas only two-thirds recovered in former years, now the proportion of recoveries is fully six-sevenths. In order to make my remarks as practical as possible, I will discuss the subject of the treatment of eclampsia by dividing it into, 1st, preventive; 2d, obstetrical; and 3d, medicinal or remedial.

Prophylactic treatment.—I will state that I believe puerperal eclampsia to be eminently a preventable disease. If so, it is useless to argue the claims of, or the importance of preventive treatment. It is the duty of every physician practising obstetrics to make it his invariable rule to examine the urine of pregnant women, beginning at the fourth or fifth month of utero-gestation, and repeating the examinations at regular intervals of two or three weeks until the end of pregnancy. If this were made the routine practice, our patients would soon appreciate the importance of carrying it out, and would place themselves in our hands early enough in pregnancy to have hygienic rules enforced, and preparatory treatment instituted if necessary. The first paper I had the pleasure of reading before this Society related to the subject of the preventive treatment of eclampsia. It was my intention at that time to prepare a paper on the prophylactic and curative treatment of eclampsia, but the more I studied the subject the more firmly I became convinced of the great importance of prophylaxis. Consequently I collected material bearing only upon this part of the subject, and later submitted a paper entitled "The Etiology and Prophylaxis of Puerperal Eclampsia."

The value of this treatment is not yet fully appreciated. A case recently came to my knowledge of a young primiparous lady who sought the advice of her medical attendant on account of the appearance of grave symptoms. Nothing was done to relieve her, and some weeks later eclampsia set in. This occurred, although the lady's mother-in-law feared the existence of kidney trouble and had sent a specimen of the lady's urine to her physician for examination. No attention was paid to it, if we can judge by the doctor's inaction, and the lady died soon after the birth of a still-born baby.

The obstetrical treatment refers to the management of the labor. Inasmuch as a favorable influence upon the disease is usually effected by the termination of labor, steps are often taken to expedite the delivery. But harm results from too active interference before dilatation is completed. For instance, I should question the management of one of the cases presented to-night. When the os was but slightly dilated a hypodermatic injection of ergot was given, and the first stage of labor completed by forcible dilatation with the fingers. Such treatment provokes convulsive attacks by reflex action. It should be remembered that labor in these cases is often unexpectedly and rapidly terminated by nature. The relaxation of the muscular system which follows the convulsions facilitates dilatation and diminishes the opposition to the passage of the fetus. On the other hand, uterine action is increased on account of the excess of carbonic acid in the blood, as well as urea. Nevertheless, it is proper to interfere to hasten the termination of labor when the interference itself is not a source of danger. Instrumental or manual extraction is proper under conditions favorable for such action.

The medicinal or remedial treatment I shall subdivide into (a) palliative, and (b) eliminative. The palliative treatment refers to the employment of agents to relieve the severity, or lengthen the intervals between the recurrence of the convulsions. The eliminative treatment is made use of to rid the system of deleterious ingredients circulating in the blood.

For the former we possess ether, chloroform, bromide of potassium, chloral, morphia, etc. Of these, morphia, administered hypodermically, is by far the most reliable. It acts more promptly and should be repeated as required. Aconite or veratrum viride can be combined with it in such cases as have been supposed to demand venesection. The number of cases which are benefited by blood-letting must be extremely small. An argument against the value of this treatment in any but selected cases is the fact that the mortality from eclampsia was greatest when blood-letting was generally employed. When morphia was first introduced for the treatment of eclampsia it was objected to on the ground that it might prove dangerous by increasing the cerebral congestion which exists as a result of the disease. This theoretical objection has been overcome by the great benefit derived from the use of the drug in practice. It overcomes the convulsive phenomena, and counteracts the effect of the poisonous element circulating in the blood by dulling the sensibility of the central nervous system.

The eliminative treatment can be directed to the skin, the bowels, or the kidneys. The function of the skin is more under our control and can be more promptly called into action, for

which reasons diaphoretic remedies occupy the first place in eliminative treatment. Purgatives and diuretics, however, should not be neglected. The most important agent, in fact the only reliable drug, for promoting free diaphoresis is *jaborandi*. This may be administered by injecting pilocarpine hypodermatically. The objection raised against its use is that danger arises from the free discharge of mucus poured out by the mucous membrane of the respiratory tract. The best way to prevent this effect of the drug is to direct its action to the skin. Encourage sweating by means of the hot bath, by covering the patient with blankets, by the application of bottles filled with hot water, and by the hot-air bath. The danger of suffocation from the bronchorrhea is small compared with the fatal tendency of the disease.

I would call particular attention to the importance of active treatment being employed to produce vicarious elimination of the poisonous urinary ingredients, because I think this part of the treatment of eclampsia is very much neglected. We so often see cases reported in which active obstetrical treatment was employed, and in which anesthetics, chloral, bromides, etc., were freely administered and their administration continued after convulsions had ceased, and yet little or nothing had been done in the way of eliminative treatment. Precious time is wasted and the woman left unaided to fight the disease. The coma may last hours or several days before it passes off, or deepens and ends fatally. The treatment of the three cases reported to-night, I think, bears out the statement I made that eliminative treatment is often neglected.

DR. COOK.—The subject of blood-letting is very important. From the three cases reported to-night it would seem to have been justifiable, if at all, in only one. One was not bled because she had lost considerable blood. The third of the series was extremely anemic and still had eclampsia. Bleeding is empirical. If the object of bleeding is to remove the poison, we would be compelled to take more blood than the woman could spare. Morphia and chloroform are the remedies for controlling the convulsions. Morphia not only controls spasmodic action, but sometimes also increases the secretion of urine. He has had excellent results from the hot-air baths. In a case of his, the woman had convulsions prior to and succeeding labor, and there was a condition of general anasarca. He administered morphia hypodermatically with the effect of producing profuse sweating and the secretion of urine, and the severity was relieved. He does not believe any benefit is to be derived from venesection.

DR. HAGNER agreed with Dr. Fry in the importance of prophylaxis. We constantly see great carelessness in the management of the pregnant woman. Some physicians never see her until she is in labor. We should teach our patients the importance of being seen from time to time during their pregnancy. He saw the patient of another physician on the street to day who needs treatment. She is 38 and pregnant for the first time, and expects to be confined in two or three weeks. She is bloated; complains of severe pains in the head; and gives every evidence of uremic poisoning. She surely requires active treatment, and the physician's attention has been called to her condition, but two days ago he had not given any directions. This case demands



active and careful treatment. Preventive measures are very important, and would have been in the case cited. To produce sweating he uses warm air, then warm blankets. Rubber sheets with hot bricks under them will answer the purpose. We can also encourage the sweating by the use of jaborandi. If we give the pilocarpine hypodermatically, we might combine atropia with it to overcome the profuse discharge from the respiratory mucous membrane. The first case in which he had given morphia hypodermatically was in consultation with Dr. W. Johnston. It had been rarely used at that time. The bromides, chloral, and ether had been tried without any benefit, and the morphia was given as a last resort. The convulsions soon stopped. He disagrees with Dr. Fry in that he believes in speedy delivery.

DR. FRY.—Would not the atropia have a tendency to prevent the sweating?

DR. HAGNER.—I think not.

THE CHAIR.—Dr. Fry's objections are not to delivering, but only in attempting it in the early stages.

DR. PRENTISS.—Dr. Fry has struck the keynote in preventing the convulsions, which is the most important point. The mortality is less since more attention is paid to prophylaxis. If the convulsions are threatening and the woman is properly looked after during pregnancy, the convulsions will not be as severe if they do occur. A lady consulted him about a year ago. She had had puerperal eclampsia which lasted for hours two years before. She was now pregnant for the second time and was naturally anxious. He watched her after the fifth month. Albumin was detected after the seventh month, and he put her under active treatment. She was relieved of the dropsy and albuminuria. In labor he gave an anesthetic. He began with chloroform, which acted very unfavorably, for after a few whiffs the pulse ceased. It required considerable effort to revive her. He then gave ether and delivered with the forceps. If she had not been carefully watched the consequences would probably have been less favorable. He could not recall a fatal case in his own practice. He thought the therapeusis as indicated by the discussion a little mixed. Morphia has been recommended when its physiological action is to diminish the secretion of the kidneys and lock up the bladder. It also causes congestion of the brain. It would seem to be contra-indicated in puerperal eclampsia where we are supposed to have congestion of the brain. Clinical evidence, however, proves its value. There is a contradiction in the use of atropia with jaborandi. The physiological action of one is the opposite of the other. Leave out the atropia. If there is danger in pilocarpine from the excessive bronchial secretion, substitute the fluid extract of jaborandi which expends its force more upon the skin than upon mucous membranes. Dr. Hagner neglected to mention the value of purgatives, which may be greater than diaphoretics. The choice are the hydragogues which eliminate urea and water.

DR. KING.—In the methods of treatment mentioned, one of the most important was omitted. Where we have uremia and suppression of urine, nothing acts so well as extensive dry or wet cupping over the kidneys, which should be followed by mustard plasters or very hot poultices containing digitalis leaves. The



kidneys will then secrete in a few hours. He saw a case some time ago in which there were convulsions and coma. He pursued this treatment and the recovery was speedy.

DR. W. W. JOHNSTON.—There are one or two important and curious features about pregnant women. Some will not have convulsions although they have not had preparatory treatment. In several cases, he was not able to find albumin in the urine until after the labor. In two instances where patients had had several children and were sufferers from Bright's disease the puffiness only appeared after labor. Dietetic treatment prolonged their lives, and they were free from albumin for a time, but finally died. Another instance occurred last year. He examined her urine three or four weeks before labor, but could not detect any albumin. There was no bad symptom during the labor, but a slow second stage. Three months ago he found albumin and casts. He put her on a milk diet, and she has not only improved, but has gained flesh. Her sister died at sixteen of Bright's disease, and her mother has an interesting form of that trouble. Some years ago, the mother consulted him, but he could not find any albumin. She complained of dimness of vision, so he sent her to Dr. Marmion who discovered retinal changes. He believes she has contracted kidneys.

DR. FENWICK, in closing the discussion, said: in his second case he could not use preventive measures because the woman was diffident and refused to see him before the beginning of labor.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

---

*Meeting of September 29th, 1887.*

*The President, GUSTAV ZINKE, M.D., in the Chair.*

---

DR. GEO. E. JONES reported the following case of

### PURPERAL SCARLATINA.

In the fall of 1887, I was called to attend Mrs. —, primipara; blonde; age, 21; height, five feet two inches; weight, about one hundred and fifty pounds; of a most cheerful temperament.

Pains began Thursday noon; I was sent for at six in the evening, and, after a tedious labor, Mrs. — was delivered at midnight of a finely developed child.

Within an hour after the birth of the infant, the patient complained of headache, a tingling sensation in the hands and feet, dimness of vision, great thirst, and severe pains in the lumbar

region, other than those of labor. Pulse 125, temperature 105°. After prescribing for the symptoms as they presented themselves, I left for the night. Called early in the morning and was much surprised to find the patient with a severe sore throat; the chest, abdomen, and legs covered with a uniform pure scarlet rash; the back, neck, and a portion of the face mottled with a purple and dusky red color, nostrils dilated, eyes congested, pupils enlarged, low delirium, lochia suppressed, and the patient tossing from side to side, with a temperature of 107°. The urine drawn off with the catheter had a color like unto burnt umber.

Evening. Symptoms more intense.

Saturday. The face and neck became a bright scarlet-red, the body, which had lost some of the higher shades of color, became mottled and finally changed back to the true scarlet-red. The urine retained the same color, and was loaded with albumin.

Sunday. No change except the delirium increasing. Urine same.

Monday. The scarlet color was toning down to a dusky red, temperature 106°, pulse 140. Urine of a dark burnt-umber color.

Tuesday. By request of the family, Dr. Reamy was called in consultation. After hearing a statement of the case and making an examination, he came to the conclusion it was a case of scarlet fever. A medical friend who had accompanied the doctor stated that he had had a similar case three weeks before, proving fatal.

Wednesday. Death closed the scene of the most heart-rending case I ever witnessed.

But I was not through with this case. Scarlatina of a malignant type was then prevalent in this city, and as I had seen a case about two hours before I was called to attend this young lady, I was accused of carrying the disease from the child to this patient; the husband making some obscure threats of what he intended to do.

A fortunate circumstance connected with this case was that, about two weeks prior to her confinement, she heard that a poor woman in the neighborhood had scarlet fever in her family and, in the goodness of her heart, visited them and helped nurse the youngest child, several times holding it on her lap an hour or two.

It must be borne in mind that the symptoms plainly showed themselves within sixty minutes after the birth of the infant; that the rash and typical sore throat were fully developed within six hours.

The question now is: Did the period of incubation date from the time she was exposed to scarlatina, two weeks before her confinement, or did it date from the time I entered the room,

six hours before delivery? This might be made a matter of considerable legal importance, did we not know that the young lady was exposed to several cases for several hours, during which she had full opportunity of becoming affected with the scarlatinal poison, which, as a rule, does not develop itself for several days after a confinement; indeed, sometimes may remain dormant for several weeks. If it can be proven that scarlatina can be fully developed inside of six hours after the birth of the child, then of a truth this condition of the woman could be called the "special culture ground" for infectious germs of all kinds.

Perhaps some of the gentlemen present might say that this woman was predisposed to puerperal fever, and that the scarlatinal poison might have intensified the disease; if so, the scarlatina retained its distinctive features, and the so-called puerperal fever could not be recognized.

During this year, I met with seven cases of puerperal fever, giving me abundant opportunity to notice the distinct contrast between them and the case cited. The young woman had the true scarlatinal, intense, even rash, along with all the marked symptoms of a true, malignant scarlatina.

DR. PALMER agreed with what had been said that the history of the case of the essayist entirely exonerated him from any blame in having carried the disease to his patient, and for the reasons stated.

The same law which exempts a pregnant woman from the ravages of scarlet fever poison, small-pox, etc., was operative with malaria. Pregnant women, especially those late in gestation, may be exposed to malarial poisons and be exempt from the disease, when under ordinary circumstances they would have some form of malarial fever. The diseased germ remains dormant in the system of a pregnant woman, to become exceedingly active after delivery. Not a few cases of supposed puerperal sepsis are really cases of malarial fever modified by the puerperal state.

Dr. Palmer said he had seen but one case of scarlet fever in the puerperal state, and that one he had previously reported. The eruption commenced in the vulvar region, extended over the buttocks, back, and abdomen, where it was of an intensely red and violent character. Over the remaining portions of the body, it presented the appearance of a mild scarlatina. The pharynx was very red. Patient had never had scarlet fever before. Desquamation occurred at the usual time. It was complicated by the most severe genital diphtheria he had ever seen, the exudation covering the vulva, vagina, intra-vaginal cervix, and penetrated the uterine cavity; the temperature reached 106½°. Finally, abscesses formed on the back and hip, and the right parotid gland was much swollen, although it did not suppurate.

The previous exemption from the disease, the clinical history, the pharyngitis, the time of desquamation, and the diphtheritic complication made it clear to him that the disease was a scarlet fever, although the appearance of the eruption around the buttocks looked at one time like erysipelas. Patient finally recovered, and is now pregnant again.

The occurrence of scarlet fever at the puerperal time is an undoubted fact, but the time, duration, place, and mode of manifestation may be more or less modified by the puerperal condition, as well as the intercurrent disease modifying the puerperal state.

DR. GILES S. MITCHELL said the most important question raised in the case reported was to determine the source of infection. Was the obstetrician the carrier of the contagium or was the poison already in the patient's system ready to develop? The prevalence of an epidemic of scarlatina at the time, with cases in close proximity, together with the almost immediate supervision of the malady after delivery, was sufficient evidence to convince the speaker that no blame should attach to the accoucheur.

The period of incubation in scarlet fever ranges from three or four days to several weeks. Indeed, cases are on record where the poison has remained dormant in the system for fifty days. The case was also of great interest in that typical scarlet fever is extremely rare in the puerperal state. The contagium of scarlatina often induces septic or puerperal fever so-called, but as a rule sore throat and rash are absent. The prognosis was always grave, since a lethal termination was the rule in the vast majority of cases. Speaker said it was no longer a question as to whether the contagium of the acute infectious diseases would infect a puerperal subject. The physician who has such cases under treatment, when called to a case of labor, could not be too careful in disinfecting himself. Unless the most rigid antisepsis is observed in such cases, the obstetrician, instead of being the angel of mercy, may prove the angel of death.

DR. GUSTAV ZINKE thought that no positive proof existed that scarlet fever really manifests itself as puerperal fever. An absence of evidence that the patient had been exposed, and the absence of the characteristic scarlatinal eruption, but simply a sore throat in connection with other symptoms such as peritonitis, perimetritis, etc., is, in his opinion, not sufficient proof of scarlatinal origin. He was, however, willing to accept the doctrine that diseases become modified by certain conditions, and that they manifest themselves, consequently, in a masked form, as was apparent in Dr. Palmer's case; and even in his case, there might still have been a doubt about its true character, whether it was not diphtheritic or erysipelatous, if the throat symptoms had not been as well marked, and that other members of the family were affected with diphtheria, beside the fact that scarlatina was prevalent in town. If there is any truth in bacteriology, like germs ought to produce like diseases. In regard to the danger of infection, the case reported to-night teaches us to be cautious in going to a case of confinement. It has been frequently remarked and was mentioned here this evening that he who is in charge of one or more cases of acute infectious diseases should not attend a woman in the lying-in state before having undergone a thorough process of ablution and complete change of dress. All this sounds very nice in medical societies and looks well in print. Let us be honest and confess that this is rarely, if ever, done; and, as I believe, that it is not necessary. I do know that, here as well as elsewhere, good, conscientious, and scientific men, who are busy practitioners, and who depend upon their daily work for sustenance, do not surrender their obstetric practice on account of infectious diseases which they may have in charge at the time. I

have never done so myself and have yet to observe a single case in which I carried infection into the lying-in room. In a twelve years' practice, including nearly four hundred labor cases which I attended personally from the beginning of confinement, I have observed but one case which might be called puerperal fever. Its course and termination, however, proved it to be a case of severe remittent fever, modified and somewhat masked by the puerperal condition. He who is personally clean, in the true sense of the word, and who employs antiseptics rationally and is otherwise skilful and prevents unnecessary exposure of his patient, will, I believe, never have cause to regret that he did not resort to a bath and change of clothes before he undertook to attend a woman in labor, or that he did not refuse to go to her at all. This may be challenged and regarded as dangerous doctrine. But I am speaking from my own experience, and from what I have observed others to do. Antiseptic midwifery has been carried too far, so far as to render it meddlesome and annoying to both patient and practitioner.

#### TWO CASES OF OVARIOTOMY—RECOVERY.

DR. W. H. WENNING showed a large ovarian cyst removed from a patient the day previous. She was 44 years of age, and a widow. She noticed an enlargement of the abdomen for the first time in February, 1887, but experienced no inconvenience until about May. Menstruation was always painless and normal as to time and quantity. Appetite good, but bowels somewhat constipated. She had consulted no physician until she came into the speaker's hands at St. Mary's Hospital, Sept. 17th, 1887. A physical examination showed an enlargement of the abdomen more prominent on the right than the left side, umbilicus normal. A vaginal examination revealed a swelling to the right of the cervix corresponding to the abdominal enlargement on external pressure. No swelling to the left of the cervix, but the left ovary could be distinctly felt as somewhat enlarged. Uterus normal and somewhat movable. The diagnosis of ovarian tumor was readily made, and the patient being in good condition, an early operation for removal advised. The operation was performed on September 28th, with the strict observance of antisepsis. After an incision about three inches in length was made, a large cyst was punctured and a bucketful of a black, viscid, gelatinous mass drained off. A second cyst was then punctured through the first, discharging a similar, though somewhat lighter substance. Slight adhesions to the small intestines were readily broken up, and the tumor lifted out of the abdomen. The pedicle, which was long and broad, was ligatured in two divisions with strong carbolized silk and dropped into the cavity. The left ovary, which showed commencing cystic degeneration, was also removed. The abdominal wall was then closed with ordinary sutures, and a bandage applied over the gauze and cotton compress. The patient made an excellent recovery without any rise of pulse or temperature. The tumor was polycystic, consisting of one very large cyst, and numerous small



cysts, varying in size from a chestnut to an apple. The smallest specimens contained a clear liquid, which gradually became darker and thicker as the size of the cyst increased.

The speaker reported another case, very similar to the above, operated on at the same institute a month previous. This patient was a maiden lady, 35 years of age, who had been under the care of Dr. Geo. E. Walton. This gentleman had made the diagnosis of ovarian tumor, and referred the patient to the speaker for operation. The cyst was of a similar character, the adhesions slight, and the fluid of a greenish, colloid character. The operation was performed exactly as in the case reported above, and the patient also made an excellent and speedy recovery. The speaker believed the good result was due, first, to non-interference by tapping, etc., prior to operation: secondly, to the good general condition of the patient, and thirdly, to the observance of strict cleanliness and antiseptics during the operation.

DR. PALMER made a supplementary statement of one of the cases of extirpation of the uterine appendages, the specimens having been shown several months since. The operation was made for constant pelvic pains, long-continued and frequent attacks of the *petit mal* of epilepsy and hystero-epilepsy. The operation had greatly benefited the patient. Occasionally now, at intervals of one to three weeks, she had attacks of the *petit mal* form in marked contrast to what was. Formerly she was bed-fast, a miserable sufferer. Now she was able to attend to her little household duties, had gained weight and strength, and there were no severe epileptic attacks.

Menstruation had of course stopped. He had made the operation in a number of cases for the establishment of the menopause for fibroids, for persistent and uncontrolled dysmenorrhea and pelvic pain, and for some nervous disorders.

He expressed the belief that the danger of the operation was greatest when made for fibroids, and least likely to prove curative when done for nervous disorders.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

---

*Wednesday, January 4th, 1888.*

JOHN WILLIAMS, M.D., *President, in the Chair.*

MR. SIDNEY HARVEY showed a specimen of interstitial gestation.

DR. CARTER exhibited ovaries and tubes removed for double hydro-salpinx.

DR. W. S. GRIFFITH showed:



I. A specimen in which there was a tubo-ovarian cyst of the right, and hydro-salpinx of the left tube.

II. A case of cystic adenoma of the anterior lip of the cervix.

III. A parametric abscess.

Dr. LEWERS read

#### A NOTE ON THE POST-MORTEM APPEARANCES OF A PHLEGMON OF THE BROAD LIGAMENT.

The patient was admitted into the London Hospital a few days after her confinement, suffering from mania and parametritis, and died of bronchitis.

On post-mortem examination, the layers of peritoneum forming the right broad ligament were found separated by exudation, measuring from before backwards one and one-half inches, and bounded above by the Fallopian tube stretched over the convex surface of the swelling. The external surface of the peritoneum was somewhat granular, with here and there flakes of recent lymph, about one-sixteenth of an inch thick. On cutting into the swelling, the cut surfaces had a coarse sponge-like appearance, the largest holes being the size of a No. 16 catheter, and all the cavities were filled with a sero-sanguinolent fluid, but none of them contained pus.

The right ovary measured two and one-quarter inches long, one and one-half deep, and three-eighths thick. It was adherent to the adjacent surface of the broad ligament by recent lymph, and, on section, an abscess containing half a drachm of pus was found.

The author said that the specimen illustrated a phase of parametritis rarely met with, and was interesting as bearing on the pathology of ovaritis. He thought it was difficult to conceive of ovaritis occurring as a primary affection, while it was easy to see how it may be secondary.

*Periovaritis* is produced by extension of inflammation along the Fallopian tube to the pelvic peritoneum, producing pelvic peritonitis involving the ovary.

*Interstitial ovaritis* may be produced by extension of inflammation from the connective tissue between the peritoneal layers forming the broad ligament along the connective tissue on the hilum of the ovary, and so to the parenchyma of the ovary. *i. e.*, interstitial ovaritis is secondary to parametritis.

In the specimen, while the inflammation in the broad ligament was still in the stage of phlegmon, the inflammation in the substance of the ovary had gone a stage farther and caused a small abscess.

Dr. MATTHEWS DUNCAN regarded the dissection as of great interest. Dr. I. Keith had mentioned a case of an allied kind observed during ovariectomy. So great was the swelling that he could not pass a sponge into the pelvic excavation. In Dr. Lewers, as well as Dr. Griffith's case of parametric abscess, there was room for believing that septicæmia was present, and this might be

the explanation of the situation of the disease between the folds of the broad ligament—a situation not common even if it occurred at all in simple traumatic parametritis. In puerperal septicemia, or pyemia, phlegmonous masses, as distinguished from abscesses, were not rare. They were generally situated on the limbs and often multiple. They might or might not be superficially red and more or less tender. He had lately seen a case with redness, and with two small, deep, punched-out ulcers the size of a split pea. He had seen, also, two such cases of phlegmon where eminent surgeons had diagnosed abscess and operated, finding no matter.

Such cases, even when accompanied by bad symptoms, did not all end fatally.

DR. GRAILEY HEWITT thought Dr. Lewers' contribution was very valuable, as the opportunity rarely offered of substantiating the actual locality of effusions in this situation. He had frequently met with cases similar to Dr. Lewers'. He was of opinion that the presence of effusion indicated a localized septicemia. The septic material entered by way of the lymphatics, or by the blood-vessels, and the effusion in the broad ligament was the result.

DR. CARTER had been present at an autopsy of a patient who died of septic parametritis. The broad ligament of one side was enlarged, and appeared as though some plastic matters had been injected between and separated the parts. The veins were distended, and the lymphatics were imbedded in plastic material and kept fixed and patent.

DR. BOXALL read a series of papers on:

#### SCARLATINA DURING PREGNANCY AND IN THE PUERPERAL STATE.

The author briefly refers to some of the anomalies which exist in ordinary scarlatina, and suggests that further deviations from the usual type may be expected under the special conditions which appertain to pregnancy and to the puerperal state.

He mentions some of the more recent literature on the subject as containing the varied and frequently diametrically opposed opinions expressed by different observers, and, in passing, draws attention to the confusion which has arisen through the loose application of the terms "puerperal fever" and "puerperal scarlatina."

He then describes a series of sixteen cases of undoubted scarlatina occurring during pregnancy and in the puerperal state, with special reference to the facts of exposure, as far as they could be ascertained in each case.

#### *I. The Liability of Pregnant and Parturient Women to Scarlatinal Infection, and the Duration of the Incubation Period.*

Referring to the rare occurrence of scarlatina during pregnancy, and its almost invariable appearance during the first few days of the puerperium, and bearing in mind the alteration in the existing conditions which take place at delivery, he insists that the two classes of cases must be kept separate, and that a distinction must be drawn.

(a) Between those cases *which receive infection* prior to delivery, and those which receive infection during or after labor.

(b) Between those cases *which fail* before delivery, and those in which the disease does not make its appearance till after the onset of labor.

He further points out that the duration of pregnancy has an important bearing on the question of incubation.

The sixteen cases of scarlatina are arranged in groups according to the time at which exposure occurred. The following inferences are drawn:

1. As regards the time, with reference to labor, at which the disease shows itself—

(a) That scarlatina almost invariably occurs within the first week of the puerperium, and its occurrence at a later period is extremely rare, and—

(b) That in exceptional instances scarlatina may show itself during pregnancy, shortly before the onset of labor.

2. As regards the liability of pregnant and parturient women to scarlatinal infection, and the reciprocal influence existing between the latter and parturition—

(a) That a woman exposed to the disease may become infected with scarlatina during pregnancy, during or after labor.

(b) That the liability to infection is especially marked shortly before, and during the first few days after, delivery, but does not extend far into the puerperium.

(c) That, if infection occur during pregnancy, the onset of labor may be thereby precipitated.

(d) That, when infection takes place during or shortly after labor, the incubation period may be shortened; and, finally—

(e) That the foregoing considerations are in themselves sufficient to explain the frequent onset of scarlatina during the first week of the puerperium, without the necessity of ascribing to scarlatina in pregnancy an incubation period exceeding that of ordinary scarlatina.

## II. *The Relation of Scarlatina to Menstruation.*

The author here points out that an apparent analogy with regard to the onset of scarlatina exists between labor and the menstrual periods. Careful observations were made on a separate series of sixteen cases of scarlatina in non-pregnant and non-puerperal women. These were classified and presented in a tabular form.

Upon this evidence, it appears that women usually fail with scarlatina shortly after, during, or just before a menstrual period, as in the case of labor.

In conclusion, the author suggests that the following considerations (exactly analogous to those which refer to the intimate connection existing between the time of the onset of scarlatina and delivery) may serve to explain these facts:

1. That the liability to infection is especially marked shortly before, during, and immediately after a menstrual period.

2. That infection occurring shortly before a menstrual period may precipitate the flow.

3. That, when infection takes place during or shortly after a menstrual period, the incubation period may be shortened.

### III. *Clinical Course of Scarlatina during Pregnancy and in the Puerperal State.*

After briefly referring to the difficulties attending the diagnosis in many cases of scarlatina occurring during the lying-in-period, the author, before entering into a consideration of the clinical features of the disease, reiterates the necessity of dissociating those cases in which the attack begins before delivery from those in which it commences after the onset of labor.

The initial symptoms are discussed. Attention is directed to the special character of the throat affection, and the following observations are presented :

1. That *during pregnancy* the throat symptoms are unmodified, but that after delivery angina is rare.

2. That in scarlatina *after delivery*—

(a) Subjective soreness is usually absent at the outset, and even at a later stage rarely causes much distress.

(b) Signs of slight inflammation, though generally absent at the outset, may usually be observed on the second or third day of the attack.

(c) The cervical glands are usually affected, whether any change has been apparent in the throat or not.

The fallacy of adducing from the diminished intensity of the throat affection an argument in favor of direct inoculation of the poison through the parturient passages is pointed out.

Attention is also directed to the slight intensity of the tongue affection, and to the marked flushing of the face which precedes the rash. These also appear to be features of scarlatina developed *post partum*, but not of *anti-partum* scarlatina.

From these observations it is concluded that some modifying influence, the nature of which is unknown, is called into play at the time of delivery.

The peculiarities of the eruption are discussed with especial reference to site and intensity. Its modifications are attributed to the altered circumstances of the patient after delivery. The frequent occurrence of sudamina and urticaria is also noted.

A *resumé* is given of the various complications which the scarlatinal patients presented. Mention is also made of the influence of a previous attack of scarlatina, and of the lapse of time after delivery in diminishing the severity of the disease.

### IV. *Effect of the Scarlatinal Poison on the Course of Labor.*

An epitome of the course of the labor is given, both of those patients who were delivered during the incubation period and also of those who were delivered during the actual attack of scarlatina.

The following conclusions are adduced :

1. When labor occurs *during the incubation period* of scarlatina, it runs for the most part its usual course, but the pains may exert a greater influence than usual on the mental condition of the patient ; inertia, if induced, sets in late in the course of labor, and a peculiar and almost characteristic odor may be present.

2. When labor occurs *during an attack* of scarlatina, the pains are apt to be feeble throughout, inertia sets in early, and post-partum hemorrhage is liable to occur. The same peculiar odor may be present.

#### V. *Effect of the Scarlatinal Poison on the Puerperium.*

The following conclusions are offered :

(1) That involution of the uterus is not much, if at all, retarded.  
(2) That the slight and evanescent tenderness over the fundus, occasionally present at the very outset of the attack, is often due to increased sensibility of the pelvic organs, and is rarely an indication of pelvic inflammation.

(3) That, provided antiseptic precautions be taken, lacerations heal without difficulty, and the lochia as a rule do not become offensive.

(4) That in some cases a peculiar unpleasant odor may be observed.

(5) That the lochia usually proceed naturally and cease about the usual time, but in many cases become red and free at the outset of the attack.

(6) That the mammary secretion is frequently diminished and sometimes arrested, as the result of the illness.

(7) That infants kept at the breast are especially prone to scarlatina, probably from the mere fact of contact with the affected parent.

(8) That, when scarlatina shows itself in the mother during pregnancy, the fetus may or may not be affected *in utero*.

(9) That, when the mother receives infection shortly before delivery, the infant more generally escapes, though it may be subsequently infected.

Wednesday, February 1st. 1888.

JOHN WILLIAMS, M.D., *President, in the Chair.*

MR. MEREDITH showed two large pedunculated fibroid tumors, in both of which axial rotation had occurred, and in one to an extent involving occlusion of the cervical canal and retention of menses.

DR. LEWERS exhibited the cervix uteri, removed by supra-vaginal amputation, on account of carcinoma, and from a patient in whom abortion had been induced at the fourth month, a fortnight previously.

DR. CARTER showed an 'epitheliomatous growth removed from the cervix by galvano-cautery.

DR. W. DUNCAN exhibited ovaries and a piece of jejunum, the latter showing perforation after ovariectomy.

DR. W. S. GRIFFITH showed a specimen of myxoma fibrosum of the chorion.

A paper was read

ON THE EFFECT OF ERGOT ON THE INVOLUTION OF THE UTERUS  
by DR. HERMAN and DR. C. O. FOWLER.

The authors remarked that the administration of a tonic mixture containing ergot, during the lying-in period, had often been recommended. This recommendation was based upon a general knowledge of the action of such drugs, and of the process of involution. No observations had been made, so far as the authors were aware, as to the actual effect of this treatment upon the progress of involution. The authors had sought to ascertain its effect by measuring the height of the uterus above the pubes on successive days of the lying-in, in two sets of patients; one set (fifty-eight in number) treated with an ergot mixture for a fortnight after labor, the other set (sixty-eight in number) given a single dose of ergot after labor and no more. They found that, in the cases treated by the continuous administration of ergot, the uterus diminished in size more rapidly than in those in which one dose only was given. They compared the two sets of cases as to the duration of the lochial discharge, but on this they did not find that the ergot treatment produced any appreciable effect.

DR. BOXALL contrasted two series of cases, each referring to one hundred patients; every alternate patient admitted to hospital was given a mixture three times a day, containing ext. ergotæ ann. ℥ xv. for a dose, during the first three days of lying-in. To avoid fallacy in the comparison, the two series of observations were carried on simultaneously. The ergot mixture was given in the first series. In the second, its routine administration was omitted, but in the series are included thirty-one patients for whom, on account of hemorrhage, severe after-pains, etc., ergot was subsequently prescribed. The results are presented in a tabular form. By contrasting the two series of cases, Dr. Boxall concludes:

1. That, though the routine administration of ergot, during the first three days of the puerperium, exercises no appreciable effect on the date at which the lochia cease (in this respect confirming the observations of the author of the paper), the practice of giving ergot mixture during the three days following delivery tends to prevent the formation of clots and to hasten their expulsion and to diminish the frequency, intensity, and duration of after-pains.

2. That if omitted at first, but given after, the ergot mixture tends to promote the expulsion of clots and to relieve after-pains.

Dr. Boxall considered (*a*) that the routine practice (which he had followed) of administering a douche at 110-115° F., not only immediately after labor, but also twice a day during the puerperium until the lochia ceased (a powerful stimulant to the uterus),



—(b) the ergot which was given in every case immediately after labor, and (c) the ergot mixture which was prescribed subsequently in thirty-one of the cases included under the second series, all tend to lessen the difference which he had shown to exist between the two, and that, in consequence, the beneficial effect of the ergot mixture is even greater than that shown by the figures given in the tables.

DR. DAKIN had made observations as to the effect of systematic administration of ergot for some days during the puerperium on cases in the General Lying-in Hospital while he was house physician. They did not support the view which the authors took, but showed that the average day when the fundus had sunk to the brim was 9.12 when ergot was given once only; 10.3 when ergot was given daily for three days.

There were, however, other fallacies than those named by the authors, for in addition to the condition of the bladder, rectum, thickness of abdominal wall, and weight of the uterus in the pelvis, there was the condition of the uterine axis, whether flexed or inclined antero-posteriorly or laterally.

He had found, in a number of consecutive cases taken at random, that one-sixth of the uteri were in the axis of the body. These ought not to be compared with cases of ante flexion and version usual to the uterus during the puerperium, as there might be a difference of three inches or more on this account alone.

In one of Dr. Dakin's cases, the fundus was found one day in the left hypochondriac region nine inches from the pubes, whereas in the next it was to the right of the middle line, and only measured five and one-half inches.

He agreed with Dr. Boxall that the lochia were a better criterion of the rate of involution, and in this his own figures did not agree with the authors, for with one dose of ergot the average was 9.8, with three days of ergot 11.6.

With reference to the retention of clots and the occurrence of after-pains, he found that, out of 92 cases where ergot was given for three days, 51 = 55.4 per cent had after-pains, and 22 = 23.9 per cent passed clots. Out of 103 cases where only one dose of ergot was given, 64 = 62.136 per cent had after-pains, and 14 = 13.592 passed clots, so that the ergot cases had fewer after-pains, but passed more clots. The unergotized cases, like Dr. Boxall's, passed clots up to the tenth day, whereas the ergotized ones passed no clots after the sixth day.

It seemed that the continuous use of ergot, by keeping up a tonic state of contraction instead of allowing normal alternate contraction and relaxation, would tend to favor retention of clots and to prevent the normal process of involution. This was, to a great extent, borne out by his figures.

DR. SWAYNE wished to know if chloroform was used during delivery and in how many of the cases.

In order to ascertain accurately the effect of ergot given after delivery, in his opinion it was necessary to remove all disturbing influences, such as the administration of anesthetics during labor.

DR. HERMAN, in reply, said that the cases observed by Dr. Dakin (which seemed to support an opposite conclusion to that arrived at by Dr. Fowler and himself) were only given ergot for three days, while their cases took it for a fortnight, and he did not, therefore, regard the two sets of cases as strictly comparable.

The sources of error from the mode of measurement pointed out by Dr. Dakin had been present to the minds of Dr. Fowler and himself, but there was no other mode which was not attended with sources of fallacy. Such errors as arose from anteversion and anteflexion of the uterus were equally distributed among the two sets of cases and so did not vitiate the comparison. Dr. Fowler and himself had paid particular attention to the occurrence of lateral displacement and had found that it depended, in the majority of cases, on the position in which the patient had been lying. They had not referred to it in this paper, as it did not seem to have any important bearing on the subject of the paper.

In reply to the question of Dr. Swayne, chloroform had been given in six of the cases, viz., three of each series.

The President then delivered the

#### ANNUAL ADDRESS,

At the conclusion of which a vote of thanks was passed on the motion of Dr. Braxton Hicks, seconded by Dr. Swayne.

Dr. Potter proposed a warm vote of thanks to the retiring officers, which was seconded by Dr. Boxall and responded to by Dr. Champneys and Mr. Alban Doran.

---

*Wednesday, March 7th, 1888.*

JOHN WILLIAMS, M.D., *President, in the Chair.*

DR. AUST-LAWRENCE showed a specimen of extra-uterine fetation, with the primary gestation sac.

DR. HERMAN exhibited a fetus and placenta from a successful case of operation at the fourth month, two and a half hours after rupture of a tubal sac.

DR. PENROSE brought forward a specimen of left tubo-abdominal pregnancy in which the corpus luteum verum was in the right ovary.

#### SCARLATINA DURING PREGNANCY AND IN THE PUERPERAL STATE.

The two remaining sections of DR. BOXALL's paper, partly read at the January meeting, were now brought forward (VI.). With regard to the clinical relation of scarlatina to puerperal septicemia, the subject of the sixth section, a brief summary of the sixteen cases of undoubted scarlatina is given, and it is pointed out that in one case only were the scarlatinal manifestations associated with signs of septic poisoning.

Forty lying-in patients are known to have been exposed to one or more of the above cases of scarlatina. This series is presented in a tabular form, giving the time and duration of exposure and the course of the puerperium. On this evidence, it is apparent that such exposure resulted in no detriment to the puerperium.

As it might be urged that the three hundred patients or more admitted during the prevalence of scarlatina were, to a greater or less extent, exposed, a chart (together with the percentage tables from which it was constructed) is also appended. This indicates

the morbidity (as judged by the temperature) prevailing not only during the whole scarlatinal period, but includes, in addition, the three months which preceded the outbreak. From this it is evident that the prevalence of scarlatina in the hospital exerted no appreciable effect on other cases lying-in during the same period.

The special value of local antiseptic measures in scarlatina during the lying-in period is discussed.

The following conclusions are offered:

1. That affection by the poison of scarlatina *generally* produces in the puerpera a disease which presents, *for the most part*, the usual symptoms of scarlatina, and runs the ordinary course of the disease without the appearance of septic manifestations.

2. That the disease, in addition to the usual symptoms of scarlatina (to a certain extent modified), may *occasionally* present signs of septic poisoning; that, when present at the outset of the disease, pelvic inflammation and septicemia may usually be regarded as accidental complications, but, at a later stage, such signs may be the expression of a septic process, analogous to the secondary throat of ordinary scarlatina.

3. That *in rare instances* the disease may assume a masked form in which the ordinary signs of scarlatina are absent, or so slight and evanescent as to escape observation; and that, in some such cases, the only manifestation of the illness may be found in signs usually referred to septic poisoning.

VII. This, the final section of Dr. Boxall's paper, related to the treatment of scarlet fever during pregnancy and in the puerperal state.

After referring in very brief terms to remedial measures, the author discusses the means which should be adopted to prevent the spread of scarlatina to pregnant and parturient women.

He points out the advisability on the one hand of isolating all scarlatinal cases and disinfecting all contaminated articles, and on the other of shielding pregnant and parturient women from the many risks of scarlatinal infection which surround them, and, when possible, of removing such patients from any district in which the disease is prevalent.

The influence of a third person as a vehicle of infection is discussed with special reference to the conditions under which it is likely to be exercised, and, finally, the measures which may be adopted to counteract that influence are pointed out.

It is concluded, finally, that, as the poison may be carried not only directly by the hands, but also indirectly by the clothes and general surfaces of the body, and possibly also by the breath, and subsequently given off into the atmosphere (from which it is inhaled by the patient), thorough washing and disinfection of the hands is not sufficient to insure protection, but that a disinfectant bath, a complete change of clothing, and active outdoor exercise, should be also included in the necessary precautions, and that

these measures should be adopted not only by the doctor, but also by all other persons who have been brought into contact with scarlatinal poison, and especially by the nurse, prior to attending on a lying-in woman or even visiting a patient who is advanced in pregnancy.

DR. DOLAN (Halifax) said that in private practice it would be impossible to carry out all the precautions laid down in Dr. Boxall's valuable paper. From personal experience he found that, contrary to the generally received opinion, the puerperal woman did not appear to contract scarlatina, even though exposed to the danger. The puerperal death rate did not rise in Halifax during scarlatinal epidemics. Two separate classes of practitioners, the first to attend labors only and the second to attend cases of scarlatina, could not possibly be established, nor would such a system be necessary.

DR. PLAYFAIR reviewed some older opinions on Dr. Boxall's subject. Scarlatina had been held peculiarly dangerous, under certain circumstances, to lying-in women. On the other hand, it might run a perfectly normal course. Lastly, the fever was supposed to run a very untypical course in some puerperal cases, appearing practically identical with puerperal fever or septicæmia. Dr. Boxall's valuable observations did not disprove these opinions. His patients, it should first be remembered, were placed in the most favorable conditions, where the graver effects of scarlatina could hardly be looked for. Nevertheless, he admitted that he had observed a very mild form of scarlatina and also a masked form, resembling cases of septic poisoning. Dr. Boxall had noted the increased susceptibility of puerperal women to scarlatinal infection, the modification of certain symptoms, and the existence of some unknown modifying influence under the circumstance. If so, this influence would be yet more powerful and less impeded in cases unprotected by the precautions enforced at the General Lying-in Hospital. Dr. Playfair suggested a theory which would explain the signification of mild typical scarlatina occurring in some puerperal cases and of a masked and septic form in other cases. In the one case, the disease was contracted through the ordinary chances of infection; in the other, it was conveyed directly to the genital tract by the hands of the obstetrician, or midwife, or by infected sponges, etc. Twenty-five years ago, a Lying-in Ward was established in King's College Hospital. The arrangement was disastrous and was at length abandoned. During the existence of the ward there were outbreaks of erysipelas in the surgical quarter of the hospital and coincident epidemics of puerperal fever in that ward, but the lying-in patients had no symptoms of erysipelas which on the other hand were seen in some of their infants. Here was an analogy with the conduct of the scarlatinal poison.

DR. AUST-LAWRENCE (Clifton) believed that some of these cases did not die of the fever itself, but from decomposition of the lochia induced by the poison. In one case, the patient was saved by timely washing-out of the uterus.

DR. HERMAN criticised paragraphs two and three in the sixth section of Dr. Boxall's paper, which included theories already accepted by others, but, though still based more or less on conjectures, Dr. Boxall's conclusions were the result of a sound method of investigation, for he began with the parent factors, the scarlet

fever and the puerperal woman. He had not, like others, started with the case, hunting back for the cause. Still, Dr. Herman was of opinion, comparing the above conclusions with the valuable morbidity-tables before, during, and after the prevalence of scarlatina in Dr. Boxall's hospital, that the poison of scarlatina, when communicated to the lying-in woman, produced that disease and nothing else.

DR. LEITH NAPIER dwelt at length on recent observations with regard to rashes which were not really scarlatinal, and gave his own experience on rubella in the puerperium. These rashes must be remembered in relation to any case or series of cases of alleged mild and not fatal scarlatina in the puerperium.

DR. BRAXTON HICKS believed that scarlatinal poisoning was frequently mixed with puerperal fever, or septicemia, the scarlatinal element being latent or occult.

DR. MATTHEWS DUNCAN noted how antiseptic treatment kept away the microbes of suppuration and septicemia, but did not ward off scarlatina. He believed in the theory that the so-called scarlatina of midwifery and surgery included more than one disease; but he regarded true scarlatina occurring within a few days of lying-in, as a disease of enormous mortality. He had observed a red rash, with fever, which began around the wound made in opening a chronic inguinal parametric sinus. The rash spread, but there was no certainty that it represented scarlatina. Dr. Duncan did not believe in the commingling of scarlatina and puerperal fever. When the former disease raged in London, killing two hundred and fifty a week, there was no increase of puerperal fever. This fact agreed with Dr. Dolan's practical conclusions.

It was resolved by DR. GALABIN, seconded by DR. HORROCKS, that the debate on Dr. Boxall's paper be adjourned. The resolution was carried unanimously.

## REVIEWS.

CONTRIBUZIONE ALLO STUDIO SULL' AZIONE COMPRESSIVA DEL FORCIPE. RICERCHE SPERIMENTALI E CLINICHE DEL DOTTOR LUIGI ACCONCI.—CONTRIBUTIONS TO THE STUDY OF THE COMPRESSIVE ACTION OF THE FORCEPS. EXPERIMENTAL AND CLINICAL RESEARCHES. By DR. LUIGI ACCONCI. Turin, 1886.

The chief question the author aims at answering in this monograph is as to whether the classic or the axis-traction forceps exercises the least degree of compression on the fetal head. At the outset, the action of the forceps as a compressor and a tractor is considered in a general way, and there follows a detailed statement of the experimental and clinical researches which have led the author to the conclusions which we briefly summarize: Generally the axis-traction forceps compresses the head to a less degree than the classic. This minor compression depends absolutely on the presence of the compression screw and of the traction apparatus, independently of any force exercised by the hands; further, it allows greater reducibility of the transverse



diameter of the fetal head in the presence of antero-posterior contraction of the superior strait. The screw, far from compressing the head strongly, only does so to the degree necessary for securing a firm hold; indeed, the pressure to which the head is subjected, when the axis traction forceps is used, is two to four millimetres less than when traction is made directly by the hands. The forceps which, in the author's experience, has answered the best is the ordinary Simpson, to which is attached the modified traction apparatus of Prof. Tibone.

BEITRAEGE ZUR ANTHROPOLOGIE DES BECKENS.—CONTRIBUTIONS TO THE ANTHROPOLOGY OF THE PELVIS. By L. PROCHOWNICK. Reprint from the *Archiv für Anthropologie*, XVII., 1 and 2.

MESSUNGEN AN SÜDSEESKELETEN MIT BESONDERER BERÜCKSICHTIGUNG DES BECKENS.—MEASUREMENTS ON SOUTH SEA SKELETONS WITH SPECIAL REFERENCE TO THE PELVIS. By L. PROCHOWNICK. Reprint from the *Jahrbuch der Wissenschaftlichen Anstalten zu Hamburg*, IV.

These monographs are of great value from an anthropological standpoint, and will chiefly interest, of course, those whose studies lie in this direction. The tables, with which they fairly bristle, are a further index, if one were needed, of the untiring industry of the author.

## ABSTRACTS.

1. Villa: Comparative Therapeutics of Uterine Fibroids (*Nouv. Arch. d'Obst. et de Gyn.*, No. 1, 1888).—After an analysis of the various therapeutic measures applicable to uterine fibroids, the following are the deductions in regard to electricity, resulting from experience in Doléris' clinic: No matter what the intensity of the current employed, neither disappearance nor marked diminution in size of the tumor has been noted. Where diminution in size seemed to follow, careful measurements proved that this was illusory, there being simply a downward displacement of the tumor. The pains of which the patients complained were not specially relieved. Whilst in some cases the hemorrhages were favorably influenced, they reappeared on cessation of treatment. The only incontestable gain from the electrical treatment has been the stimulant effect leading to improved nutrition. The current seemed, further, to favor the conversion of interstitial into submucous growths. Aside from these two advantages, the method is deemed to be a palliative one, on which little dependence can be placed. A proof of the inefficiency of the method is the fact that many patients, treated amongst others by Apostoli himself, were obliged ultimately to submit to a radical operation.

2. Lindner: Wandering Kidney in Women (*Der Frauenarzt*, 1887).—In this study, the following statistics, bearing on the choice of operative method, are given: 36 nephrectomies with 9 deaths; 29 nephroraphies with 1 death. In 9 instances where the kidney was extirpated by the lumbar incision, all the patients recovered, whilst of 25 laparot-



omies there were 9 deaths. In 2 of the cases which recovered, the method of operating is not stated. Whilst these statistical data point to the superiority of nephroraphy over nephrectomy, from the standpoint of immediate result the critical study of the after-course leads L. to the conclusion that extirpation of the organ is preferable, seeing that, in many instances, nephroraphy has been only of temporary benefit, nephrectomy having been ultimately called for.

**3. Nagel: Contribution to the Anatomy of Healthy and Diseased Ovaries** (*Arch. f. Gyn.*, XXXI., 3).—The specimens examined were derived from Gusserow's operations. The conclusions of most interest are those relating to interstitial oöphoritis. When an ovary becomes diseased, the interstitial tissue is the portion first affected, the follicles retaining their normal appearance for a long time, and continuing to produce ova. As soon as the disease of the ovarian tissue has reached a certain grade, the follicles atrophy. A circumscribed peritonitis seems to be the most frequent cause of disease of the ovary, the peripheral portion of the organ being first affected. The inflammatory process in the interstitial tissue leads to the affection commonly known as chronic oöphoritis.

**4. Eichholz: A Case of Cesarean Section** (*Reprint*).—The operation was called for by the presence of a large fibroid in the vagina interfering with delivery. The section was resorted to, rather than removal of the tumor *per vaginam*, for the reason that no pedicle could be determined, and the chances of profuse hemorrhage would have been great, seeing that the tumor had grown very rapidly during pregnancy and was probably freely supplied with vessels from the gravid uterus. The risk to both mother and child was, therefore, deemed less from resort to the Cesarean section. The child was saved. An attempt was made to remove the tumor through the incision in the uterus, but E. was obliged to desist, on account of the profuse hemorrhage and the collapsed state of the patient. Death occurred on the third day from sepsis, having its outcome from degeneration of the myoma. When the Cesarean section is performed in the presence of retro-uterine or retro-cervical fibromata, Säger favors leaving the tumor untouched. He has recorded four successful cases of Cesarean section where this course was followed, whilst in three, where removal of the tumor was attempted, death occurred. In E.'s case, the tumor was subserous, and it had suffered mechanical violence from pressure of the fetal head during labor. It is questionable, therefore, if, in any similar case, it would not be preferable to endeavor to remove the tumor, even though the hemorrhage were profuse and the patient in partial collapse.

**5. Saenger: The Operative Treatment of Retroversio-Flexio Uteri** (*Cent. f. Gyn.*, No. 2 et seq.).—The operative methods of treatment of retroversio-flexio of the uterus are indirect (plastic operations on the vagina, repair of deep lacerations of the cervix, amputation of the cervix, etc.) and direct. These latter means are considered in detail, and are classed under three heads: 1st, Von Rebenau's method of resection of the anterior wall of the cervix; 2d, the Alquié-Alexander operation of shortening the round ligaments; 3d, laparotomy followed by ventral fixation of the organ, with which method the paper deals in par-

ticular. Seven personal cases are reported, in five the fixation being secondary to ovariectomy or castration, one or both pedicles being stitched to the abdominal wall, and two cases being instances of what is termed "pure" ventral fixation, that is to say, the main object being suspension of the uterus by sutures passed through the cornua uteri and abdominal wall. Suspension of the uterus by this means is recommended as a secondary step to every laparotomy for removal of the diseased appendages where the uterus, whether adherent or not, lies retroflexed. Ventral fixation is considered the only direct operative method by means of which the uterus may be maintained anteverted, and the Olshausen procedure of bilateral sewing of the cornua uteri, by means of two to three sutures, into the abdominal wall, is preferred to other varieties. Klotz's method (loosening of adhesions, sewing of one pedicle or of one tube into abdominal wall, glass drainage tube passed to the bottom of Douglas' cul-de-sac, and left for three to four weeks, to assist in keeping the uterus anteverted) is specially criticised as being likely to prove inefficient, seeing that the suspension is from one side alone, and, further, in that S. is opposed to the use of the drain tube as a routine measure.

Klotz (*Cent. f. Gyn.*, No. 5, 1888), from an experience in seventeen cases, claims that the use of the tube leads to thickening of the uterine wall at the site of flexion, and that this tends to keep the cervix backward; further, that in his cases, fully two-thirds of the posterior surface of the uterus remained free from adhesions (this was not proved by autopsy, however); lastly, in none of these cases did there develop symptoms of adhesions, something which S. deemed likely to follow the use of the tube.

**6. Korn: The Prevention of Ophthalmia Neonatorum** (*Archiv f. Gyn.*, XXXI., 2).—In this paper it is shown that direct prophylactic treatment of the eyes of the new-born is unnecessary if strict attention be paid to disinfection of the maternal passages before and during labor. At the Dresden clinic this question has been tested experimentally in 1,000 cases, with the result that only 0.3 per cent suffered from ophthalmoblenorrhoea. The special attention given to the maternal genitals consisted in cleansing of the external parts with sublimate (1:1,000) and vaginal injections of sublimate (1:3,000). The injections were repeated a number of times during labor. On the birth of the fetal head the eyes were scrupulously irrigated with plain water, especial care being taken to prevent the opening of the eyelids before thorough cleansing. It is believed that these precautions will prove sufficient to prevent entirely infection of the eyes.

**7. Breisky: The Management of Advanced Extrauterine Pregnancy** (*Wien. Med. Woch.*, 48, 49, 50, 1887).—A number of instances are recorded, the most important of which is the following, in that it is the first on record in which, after delivery of a living fetus, the entire sac was extirpated, a procedure which B. claims had an undoubted effect on the recovery of the mother. The case was first seen by B. when the gestation had advanced to the end of the sixth month. Owing to its probable inter-ligamentous site, the danger from sudden rupture was deemed slight, and he, therefore, determined to wait one month before operating in order to obtain a viable child. The patient did not report,

however, till the gestation had advanced to the ninth month. The operation was then performed; a living child was delivered, weighing 2,470 gm. and being 45 cm. in length; the mother made a good recovery. The sac had developed between the layers of the right broad ligament and was enucleated without special difficulty. This instance is the third on record where gastrotomy has been performed in case of the living fetus and has been followed by maternal recovery; in the two other cases, however, total extirpation of the sac was not attempted (Jessop's and Martin's cases). B. claims that it is especially important in these cases to remove the sac, for we thus better than in any other way guard the mother against hemorrhage and sepsis. Martin was able in this successful case to ligate the placental site; but B. would prefer total extirpation, since the ability to ligate without damage to other organs depends entirely on the site of the placenta. The hope is expressed by B. that the success in his case will lead others to follow his example and to extirpate the entire sac.

**8. P. Reichel: The Development of the Perineum and Its Influence on the Occurrence of Certain Malformations** (*Ztschrft. f. Geb. u. Gyn.*, XIV., 1).—From a series of embryological studies R. reaches the following conclusion in regard to the development of the perineum: The perineum is formed by union in the mid-line of projections from the sides of the cloaca. The anal folds, rising simultaneously behind the cloaca, unite with the posterior genital folds below and the septum of Douglas above, to form the anal part of the rectum. This conclusion accords essentially with the view held by Rathke and offers an explanation for the occurrence of malformations, such as that observed by R. in a case the essentials of which are: A married woman of 25, who had never conceived, consulted him on account of passage of feces from the vagina. The external genitals were well developed, the anus was normal; a fistula, patent for the finger, existed between the rectum and the vestibule directly below the hymen. This fistula, aside from a few fissures, was covered with normal mucous membrane. The perineum was unusually short. This fistulous opening was evidently congenital, and the generally accepted view (that of Perls) in regard to the formation of the perineum not accounting for such a malformation led R. to study the subject with the result above stated.

**9. R. Dohrn: Has the Contracted Pelvis an Influence on the Sex of the Fetus** (*Ztschrft. f. Geb. u. Gyn.*, XIV., 1).—In case of contracted pelvis Olshausen has found that, in 521 deliveries, there were 211 female against 310 male births, or a ratio of 100:147. Similarly, Linden, from a study of Ahlfeld's material, found an excess of male births, the general ratio being 133:100, in case of the rachitic pelvis 150:100, and in case of the generally contracted pelvis 143:100. R. has investigated this subject anew, and from the material of the Königsberg clinic finds that there is no such excess of male over female births. The ratio he finds is: 450 labors, females to males as 100 to 100.9; 237 rachitic pelvises, females to males as 100 to 106; 213 generally contracted pelvises, 109 females, 104 males.

THE AMERICAN  
JOURNAL OF OBSTETRICS  
AND  
DISEASES OF WOMEN AND CHILDREN.

---

VOL. XXI. JUNE, 1888. No. 6.

---

ORIGINAL COMMUNICATIONS.

SOME GENERAL CONSIDERATIONS ON THE CAUSES OF  
UTERINE DISPLACEMENTS AND THEIR RATIONAL TREAT-  
MENT BY ELECTRICITY.

BY

A. LAPHORN SMITH, B.A., M.D.,

Lecturer on Gynecology in Bishop's College, Montreal.

For the correct treatment of any disease it is essentially necessary that we should understand thoroughly its nature and the causes which have brought it about. To do this, it is absolutely required that we should be acquainted with the normal anatomy and physiology of the diseased organ. When we can add to these data an exact knowledge of the physiological action of our remedies, we are able to practise a rational therapeutic, and most often with a certain gratifying result. Without any of this knowledge we may occasionally stumble across a successful measure of treatment, or apply those which others have by experience found to be beneficial, in what may seem to be similar cases. But it is greatly to be desired that gynecology as well as other branches of the healing art should be placed on the basis of an exact science.

Permit me to remind the reader, therefore, of some facts in anatomy and physiology which I presume every one has

learned, but which I fear we are all apt to forget. The most important is: 1. That the uterus itself is a muscular organ, composed for the most part of layers of non-striated muscular fibres, intermixed with dense areolar and elastic tissue and large blood-vessels. It is the state of permanent contraction or tone in these fibres which keeps the organ upright on itself, and which in health prevents it from flexing by its own weight, either backwards, forwards, or to one side. The loss of this tone may be due, as in the case of any other muscle, to defective nutrition or defective innervation. Thus if the whole blood-supply be of a poor quality, the muscular fibres will be poorly nourished and their tone will decrease; and the organ, even if normal in every other respect, will drop over by its own weight, causing a flexion. This is the explanation of flexions in young girls, and even in children, which are so common and which some have thought to have been congenital. Whenever the blood-supply is so poor that the muscles of the uterus are starved, then the organ will be unable to hold itself up straight. This will be still more the case, however, if, from any cause, its size and weight are increased, as in congestion or subinvolution.

These muscular fibres receive their nerve supply from the sympathetic, and if from any reason this great nerve is unable to send out the proper amount of nervous fluid, they will relax for want of orders to contract; for it must be remembered that even involuntary muscles must have a constant supply of nervous fluid for their working.

The second important fact is that the arteries of the uterus are large and tortuous, and that they occupy canals in the uterine substance, so that they have a double means of having their calibre limited; first by means of their own circular muscular fibres which, in health, are always in a state of contraction or tone, which varies with the amount of nervous excitement; and, secondly, the size of the vessels is limited by the contraction of the muscular fibres of the uterus itself, which surround the vessels in every direction. It naturally follows that when these latter are relaxed, the quantity of blood in the uterus will be greatly increased, and the organ will become heavier; and increased weight with diminished power to support it leads to the bending of the tube or flexion.

The quantity of blood in the organ and its consequent increased weight do not, however, always depend upon the faulty tone of either the muscles of the uterus itself nor of those of its vessels. They may be doing their duty and yet the uterus may be overloaded with blood, because there is an obstruction to its outflow. You know that all the blood pumped into the uterus by the uterine and ovarian arteries has to get out again through the uterine veins, which empty into the internal iliac, or else, by climbing up the long ovarian or spermatic veins, which empty, the right into the inferior vena cava and the left into the left renal vein. I need hardly remind you that the left ovarian vein opens into the left renal vein at right angles, and, according to a well-known principle in physics, the current is therefore at a considerable disadvantage. This has an important bearing on ovarian pain. We know that pain is more frequent in the left testicle than in the right for the same reason, and that the testicle resembles the ovary in many other respects. As pain in the left side is a very constant symptom of female diseases, I think it important to remember the circulation of the left side of the pelvis.

There is another obstructive cause of dilatation of the uterine veins, and that is constipation. This I believe to be indirectly a much commoner cause of uterine disease than we are accustomed to think it. I have found it present in ninety out of every hundred women who have consulted me, and it is therefore worth while inquiring what effect it may have on the uterus.

We must remember that the uterine veins empty into the internal iliacs, and that these latter empty into the common iliacs. Now the iliac in passing up out of the pelvis has to go between the brim of the pelvis and the large intestine just where the sigmoid flexure ends and the rectum begins, and, as many women have from one to two pounds of fecal matter stored up there, it is no wonder that the delicate compressible vein is pinched between the bowel and the bone, and the current being stopped as though the vein were ligatured, the blood backs up in all its branches, and so you get congestion of the uterus, just as you have piles from the same cause; for the inferior hemorrhoidal vein is a branch of the internal pudic, which also empties into the internal iliac. This stag-



nation of blood in the uterus brings us back again to muscular relaxation ; for fibres which are fed on stagnant blood cannot be well nourished, and so the organ bends. This bending itself reacts again by obstructing the circulation still more, just as the current of water in a rubber hose is arrested by a kink in the pipe.

The next muscles I have to deal with are ones which are little known, indeed, till lately almost ignored. I refer to the muscles of the uterine ligaments. I have even seen a great surgeon deny their existence. But Barnes speaks of them as muscles, or partly muscles, and he quotes Mr. Rainey and Sappey and Cruveilhier, who have given them a great deal of attention.

As Tripier's treatment of displacements is based very largely on the fact that the uterus is held in its proper place by muscles and not by ligaments, I must take some pains to prove that such is the case. And I may say that I think it has been an unfortunate thing for the treatment of displacements that the name of ligament was ever applied to those muscles which support the uterus. The word ligament generally gives one the idea of a strong, firm, inelastic structure, which is not at all the nature of the uterine supports. One of the unhappy consequences of this erroneous idea has been that when, from causes which I shall fully explain, these supports have failed to do their duty, they have been replaced with mechanical ones of a kind resembling ligaments rather than muscles, such as hard-rubber, wood, or metal.

If you seize the healthy uterus with a vulsellum and draw it down it requires considerable force to hold it there, and when you let it go it will slip up again or, rather, be drawn up, unless you have held it down long enough to tire out the muscles, when it will remain down until they regain their strength. This would not be the case if the uterus were supported by ligaments only. Then again, we are often consulted by women who tell us that their wombs come down suddenly as the result of a fright or of fatigue, especially during the warm weather of July and August, which proves that it is not held up by ligaments but by muscles, for the former are not under the influence of the emotions.

I am no longer alone in the opinion I have held for several years, that displacements are due to relaxation of muscle ; it is

beginning to be generally admitted that the muscle of the organ itself prevents it from being flexed; that the muscles of the ligaments prevent it from being verted; and that the muscles of the vagina and perineum prevent it from being prolapsed.

I have already gone into the anatomy of the uterus itself; I must now glance at the anatomy of the ligaments. They are the round ligaments, the broad, the utero-sacral, and the utero-vesical. Of these the only true ligament is the utero-vesical, which connects the neck of the uterus to the bladder, and which is devoid of muscular fibres; but it does not support the uterus; for when the womb is prolapsed it drags the bladder with it. The round ligament, so-called, is not really a ligament, but a bundle of muscular fibres derived from the transversalis and uterine muscles. It is capable of undergoing fatty degeneration like all other muscles, and this we know it does, for several of the ablest operators, who have tried to find it in order to perform Alexander's operation, tell us that in a certain number of cases they found the so-called ligament so soft and pliable that they did not dare to draw on it; or when they did do so, it broke in their hands. Moreover, the only duty of the round ligament, Mr. Rainey tells us, is to tip the fundus of the uterus forwards, especially during coition, whereby the cervix is thrown back and the seminal lake at the top of the vagina thereby deepened.

Malgaigne says that the utero-sacral ligaments are composed of non striated muscular fibres.

Barnes says that he has often seen the uterus brought down to the vulva in the virgin by expulsive efforts at defecation; this could not be the case if the organ were held in place by unyielding ligaments, but could be easily understood if we remembered that it was depending on weak and relaxed muscles for its support.

As to the vagina, I presume that no evidence is necessary to show that it is a muscular structure. For though it has very slight contractile power in the weak and delicate women, all nerves but no muscle, whom modern education turns out of her workshop, yet in the fine, well-developed woman from the country, the vagina is a strong muscular column or tube which of itself could easily support the weight of a normal

uterus. When the perineum is torn, the vagina, of course, loses its foundation and can no longer act as a supporting column.

A case of prolapsus at present under my care offers a beautiful demonstration of these muscles of the vagina and perineum. I am treating her with faradism and employ the current from the short thick wire. When I introduce the bipolar vaginal exciter or electrode, I feel the instrument grasped as by a hand inside the pelvis and drawn up and at the same time the dartoid muscles in the labia and the sphincter vaginae enter into a state of contracture, alternately contracting and relaxing. After the first application her womb remained up only for a few hours; the second time for nearly the whole day; the third time, for a day and a half, and the fourth time it had not come down at all at the end of two days, and she said she had not felt so well for years. She was forty-eight years of age and had twenty pregnancies, although only sixteen of the children were born living; and the uterus was prolapsed several inches outside of her body, while the rectocele and cystocele were enormous; if there was ever a case suitable for operation that was one, so that I did not feel very sanguine when I commenced the faradic treatment of so formidable a condition.

This and many other cases confirm the opinion that displacements are most often due to relaxation of muscular fibre.

Now, what has generally been our treatment of displacements in the past? Too often I think we have been in the habit of contenting ourselves with a method of treatment which showed that we did not realize the true situation. Thus we read that a leading specialist had in his office over five hundred pessaries, and no two alike, which he had tried in as many or more different women. The treatment of displacements with pessaries is never curative; at the best it is only a palliative measure. The same want of appreciation of the real trouble has led to the same error of treatment in other branches of surgery. Take lateral curvature of the spine, for instance, a common disease among growing girls at school. This disease, unlike angular curvature, is entirely due to faulty muscular development. Owing to the position of the girl at her desk, the muscles of one side of the spine are not called upon to contract, the work of supporting the spine being transferred to the left arm upon which the weight of her body rests; and, according to an unfailing law of nature by which all muscles

atrophy when no longer exercised, the muscles of one side of the spine become weaker and weaker, until they become incapable of counterbalancing the action of the muscles of the opposite side which have not degenerated, and lateral curvature is produced. This atrophy or degeneration is very marked when a blacksmith, whose right arm is proverbially thick and strong, by means of some local or general disease is prevented from using it for several months. Now I am aware that the usual treatment for lateral curvature is to have the girl fitted with an iron or leather instrument—I have seen many of them used, but I never saw them cure a case—which is supposed to correct the curvature by taking the place of the weakened muscles. The only effect it has is to atrophy the muscle more and more. I had such a case several years ago—a delicate young girl was brought to me with a complicated iron corset in her hand, and which she refused to wear, preferring deformity or death to the torture which it caused. I told her mother to throw away the machine, take her girl away from school and go to the country for a few months; to stimulate the defaulting muscles with salt and water frictions, electricity, etc., and give her plenty of fresh air and good food. The result was that she is now as straight as an arrow and a splendid specimen of young womanhood. This I admit is not the usual treatment, but I believe it is the rational one, and I hold that gymnastics are better than splints for defaulting muscular action. Pessaries, instead of making the defaulting muscles of the uterus contract and become stronger, by doing their work for them make them weaker, and, moreover, in the case of the vagina, stretch them beyond all hope of contracting.

Electricity, on the contrary, by making them contract renders them more capable of contracting; for it is well known that every time a muscle contracts, the used up blood in it being prevented from going back by the valves in the veins, is compelled to move onwards to make room for more fresh and nourishing blood, so that the more muscles are used the stronger they become, and anything which prevents them from being used will render them weaker. In cases where a displacement comes on suddenly, it is due to the straining and perhaps the breaking of some of these muscular fibres with effusion of blood into the tissues. When a similar accident happens to the muscles of a man's back we can help them to re-absorb the

effusion by means of stimulating applications; but it is impossible to apply them to the ruptured muscles in the pelvis. There, however, electricity comes in good stead, for by its subtlety it can permeate the most inaccessible parts.

The use of tonics of muscular fibre in treating uterine diseases has long been known, for such drugs as strychnine, ergot, and *hydrastis canadensis* are constantly in the hands of gynecologists, and I must say with marked benefit. In fact, by employing these drugs we have tacitly admitted the principle for which I contend; for any virtue they have is due to the faculty they possess of contracting the muscular fibres of the uterus, of its ligaments, and blood-vessels.

But their action is slow, uncertain, and often unsatisfactory, while electricity is rapid, sure, and generally followed by the most gratifying results.

Hot water douches are also a means of emptying the engorged vessels of the cervix and neighboring structures, as also is glycerin of tannin applied on absorbent cotton tampons, but their action is only on their immediate neighborhood, while electricity affects all the organs in the pelvis. Instances of this are seen in seven cases of prolapsus, which I am at present attending, who were also troubled with habitual constipation, and all of whom have been cured of this troublesome complication, although the current was applied to the vagina only. But this is explained by the fact that around the current, between the two poles, another induced current is set up in the tissues, around it, in an opposite direction, and another outside of that and so on. So that a woman, to whom the faradic current is being applied to the vagina, will tell us that the sensation which was at first felt only in a small area, after a little while becomes felt over a very large extent; and again, if the current is suddenly shut off during an application, the woman receives a tremendous shock, called a return shock, from these induced currents. It is evident then, that electricity, especially in the faradic form, is the rationally indicated remedy in all forms of displacements.

But not only in displacements due to defective supports may electricity be of the greatest service, but also when they depend upon the great weight of the organ it is equally effective. Apart from amputating a piece of it—the favorite method in Germany—there is no means of reducing the weight



of an enlarged uterus so certain as the employment of electricity, in the form of the continuous current, by means of the platinum sound to the interior of the uterus, and the clay electrode on the abdomen. This result is probably due to its stimulant action on the trophic nerves, by which the nutritive changes are accelerated. There are few diseased conditions of the uterus in which electricity of one kind or another is not advantageous.

For example, here is a synopsis of two cases which I shall record at greater length elsewhere :

Mrs. G., aged 24, had been suffering for several months from all the symptoms of prolapsus when she came to consult me in September of last year. On examination, I found the uterus of about the normal size and weight for a multipara, but it was very low down in the pelvis. She had had a good deal of fatigue, owing to sickness in the family, and she told me that after she had been on her feet for a few hours she could feel a weight gradually coming down in the pelvis, which soon caused her such a severe dragging pain in her back that she was obliged to lie down and rest. I gave her fifteen minutes of the faradic current of quantity every second or third day for two or three weeks, with the result that after each application the uterus remained up for a longer and longer time, until it remained up altogether, since which she has not been troubled any more in that way.

A much more instructive case was the following :

Mrs. R., aged 67, a multipara, came to me on the 1st of September, 1887. Her condition was pitiable. The uterus, about the size of a large pear, was hanging outside of her body between her legs, and the os was surrounded by a number of star-shaped fissures or lacerations, which bled considerably whenever she sat down and got up again, through sticking to the clothes, and the insides of her thighs were excoriated by being kept constantly moist with the discharges. The uterus was heavy because hypertrophied, and the sound entered five inches.

I replaced the organ inside the vulva, and administered the quantity current for ten minutes; and I repeated the dose every second day until the 13th, when she reported that she felt much stronger, although the uterus was still outside of the vulva. Her daughter also told me that she knew that her mother was much better because she could go around so well. Finding the vaginal application rather slow, I now began to use the intra-uterine applicator.

On the 16th of October she reported that the womb stayed up now nearly all the rest of the day on which she came to me. The sound entered barely four and a half inches.

It now occurred to me that I was expecting too much of those



supports to ask them to hold up such an abnormal weight, and I therefore set about removing the superabundance of inflammatory exudation or fibrinous material, of which that weight was composed, by passing through the uterus twice a week, and during five minutes at a time, a negative continuous current of one hundred milliamperes. After the sixth application she reported that the uterus seldom came out now, and when it does, it only comes out a little way, and goes back of itself when she sits down. She also says that she feels remarkably light and free from pain. I repeated the galvanism every second or third day. On the 9th of November, I noted that there was no longer any excoriation on the thighs, and on the 16th, that the fissures and erosions on the cervix were nearly all healed.

On the 20th of November, I noted that the uterus presented a remarkably soft feel to the touch, being more like a piece of flesh, instead of being hard and almost wooden.

On the 23d, I noted that the sound entered only three and a half inches.

On the 1st of December, or at the end of three months, I left off treatment, as the uterus never came out of the vulva, and she felt well.

Although I requested her to come and report to me every month, she neglected to do so, and I lost track of her until a few days ago, when I was hurriedly sent for to draw off her water, owing to a paralytic stroke, when I had an opportunity of verifying her condition. I found the uterus fairly high in the pelvis, and the vulva quite contracted and bearing no signs of having allowed the uterus to pass its portals since a considerable time. And she told me that she had not come back because she had felt so well.

A few details as to the method of employing this remedy would probably be of use to the practitioner.

First of all a precaution is very necessary, but not more so in this than, in the light of present experience, is the case in any other manipulation about the genital canal, viz., to irrigate the vagina with a 1:40 carbolic or a 1:5,000 sublimate solution. If the latter be used as the disinfectant, I would recommend the operator to imitate a little knack, which Apostoli has, of depressing the perineum with the little finger afterwards, in order to empty the seminal lake or cavity of the vagina, which I have frequently known to hold several ounces of fluid. The observance of this precaution has saved me from any fear of mercurial poisoning, although I have made many hundred irrigations.

The apparatus required is as follows: a faradic coil made on purpose for this work. The wire must be very short and very

thick, because what we want is a current of quantity. A long, fine wire holds back the electric current, owing to friction or resistance, and consequently furnishes a current of tension, which is the current par excellence for relieving pain. A faradic coil, therefore, which is neither long nor short, neither coarse nor fine, is quite unsuitable for treating displacements. The instrument used by Apostoli, manufactured by Gaiffe, contains two such bobbins which can be used at will with the same primary coil, which latter he never uses. These boxes also contain two small bisulphate of mercury cells, which are strong enough for an odd case that you may see at her house, but which is altogether too weak for office or hospital work, where it is better to use two or three Leclanché cells to be reserved for this purpose only. With regard to the number of interruptions, the less rapidly they succeed each other the better, for we should aim at giving the muscular fibres time to relax after each contraction, rather than to throw them into a condition of permanent spasm. Every time a muscle contracts it develops, but if the contraction continues too long without a rest, it becomes exhausted.

Besides the apparatus for generating the proper current, the only other instrument necessary is the electrode or exciter. Tripier was in the habit of employing a monopolar exciter, the circuit being closed on the belly, above the pubis, by two large tampons of gas-retort carbon, covered with wet chamois skin. Apostoli uses a bipolar exciter, either large for the vagina or thin for the uterus, in which the two poles terminate about an inch from each other at the end of the instrument, and for which he claims the following advantages:

1. Doing away with the cutaneous pole.
2. Concentrating on the uterus (and its ligaments) the whole of the electrical action.
3. The operation is easier, and does not require the assistance of the patient nor any one else to hold the tampons.
4. The operation is less painful on account of the current not passing through the skin.
5. The operation is stronger and more effective, on account of the possible increase of the uterine contractility, the facility being given of employing, although with less pain, a much stronger current, with the result that it is more curative.

I have just said that the bipolar exciter may be either vaginal

or intra-uterine, and it may very properly be asked in what cases would you use the one, and in what cases the other.

The answer naturally follows from what I have already said as to the nature of uterine displacements. In flexions, or, as I would prefer to call them, deformities, the uterus itself is relaxed, and requires to be put through a course of gymnastics in order to make it hold itself up on itself, and the intra-uterine exciter should be employed. In versions and prolapsus, the muscles of the perineum, vagina, and the so-called ligaments are at fault, and they can be made to contract merely by the application of the current to the vagina. Patients generally describe their sensation as a trembling in their inside, at first immediately around the exciter, but afterwards gradually spreading until the whole pelvis is included. This is effected by the tissues acting as induction coils, one layer being affected after the other. This reminds me of another precaution which it is well to bear in mind. If by any chance the current should suddenly cease to flow, or the instrument should drop out, the patient will experience a severe shock, due to the discharge of the induced electricity stored up in these secondary batteries. It is, therefore, important to lower the strength of the current gradually, before terminating a séance, and to take good care not to let the electrode inadvertently drop out. If you do, you will not be likely to have a chance of doing it again on that particular patient.

The question may be very properly asked, whether the faradic treatment of displacements will ever fail us; and if so, in what cases. It is insufficient in those cases in which the displacement is due to abnormal weight of the uterus, when the weight consists of tissues other than muscle. For instance, in cases of areolar hyperplasia, in which there is an abnormal amount of fibrous tissue, the faradic current would be of no use, because there is no muscular fibre for it to exert its power upon. In these cases, what is wanted is a form of electricity which acts especially upon the trophic nerves; in other words the continuous current. But in subinvolution, in which the overweight is entirely due to the presence of muscular tissue which should have undergone fatty degeneration and been absorbed, the interrupted current finds its most useful application. For here all that is required is a greater amount of contraction, in order to diminish the blood supply.

Another question which is often asked is: Is it important to employ one pole rather than another in the faradic current? The answer is no; for the direction of the current changes many hundred times a minute, so that no matter how you connect the current, the effect will be the same. Moreover, the two poles terminate in the same electrode.

Should we use a galvanometer while applying the faradic current? No. For the quantity of electricity, which alone the galvanometer is capable of revealing, would hardly be sufficient to deflect the needle.

How then can we judge of the amount of current to employ? Simply by consulting the feelings of the patient. Never give her more than she can bear.

---

ELECTRICITY AS A SUBSTITUTE FOR THE CURETTE IN THE  
TREATMENT OF RETAINED SECUNDINES AFTER  
ABORTION.

---

BY  
HENRY D. FRY, M.D.,  
Washington, D. C.

---

THE pendulum of gynecological electro-therapeutics is swinging in an uncertain manner, subjected to the onward impulse of enthusiastic investigators on one hand, and, on the other, to the antagonistic influence of sceptics who believe that, like so many medical fancies of the past, it will have only an ephemeral existence.

At what point of the arc it will be arrested remains for the future to reveal. It is sufficient, however, to say that the foundation of electro-therapeutical knowledge in its application to gynecological practice is laid upon a scientific basis of study. The hap-hazard, empirical employment of this agent, which, until recently, has been in vogue, gives place to intelligent and rational methods of application.

Since the recognition of the polar effects of the anode and cathode of the galvanic current—effects diametrically opposite—since the use of high intensities, and of means for correctly

measuring those intensities, investigators have set to work with clearer conceptions of the agent they employ and of its power for good or evil. According to the pathological condition to be treated, they select the one or other pole as the active agent, and apply it with proper electrodes so that its antagonistic influence will be exerted to the best advantage. This field of inquiry is yet new, and workers have only begun to move in the right direction. I believe the effect of this study will be to diminish, in a decided degree, the field of operative gynecology, although it is too soon to say whether electricity can be used successfully to stem the tide of abdominal surgery. Let us not forget, in this connection, that already Keith, one of the greatest modern laparotomists, has said that opening the abdomen for uterine fibromata is unjustifiable until after electrolysis has been tried and failed.

In May, 1887, I read a paper before the Washington Obstetrical and Gynecological Society,<sup>1</sup> in which I set forth the claims for superiority of electricity in the treatment of stenosis of the cervical canal. The advantages of this method of treatment for sterility and dysmenorrhea are so great that I believe it will in time supersede the cutting operation and that of rapid dilatation.

Emmet's operation is one which has relieved many suffering women, but it is acknowledged by all that every case of lacerated cervix does not need repair. The symptoms demanding it are usually due to accompanying enlargement with increased weight of the organ, endometritis, etc. If, now, these conditions can be overcome by electricity, the proportion of cases requiring the operation will be further reduced. And so I might continue to mention conditions, now remedied only by resort to the knife, which can be successfully treated by this new agent.

The range of the applicability of electricity to diseases of the female generative organs is steadily increasing, and with greater knowledge and improved instruments an influence will be felt that cannot fail to diminish, in a decided degree, the field of operative work.

My present desire is to direct attention to the value of electricity in the treatment of retained secundines after abortion,

<sup>1</sup> See this Journal, January No., 1888, p. 40.

and to suggest its use as a substitute for the curette in the remote removal of adherent membrane or placenta.

By remote removal I mean such cases, not uncommon, in which, after the expulsion of the fetus, and perhaps some portion of the secundines, the os contracts, leaving within the uterine cavity adherent pieces of decidual membrane or placental tissue. After a variable period of weeks or months, hemorrhage occurs. The bleeding may be profuse, recur monthly or at irregular intervals, and, if radical measures of treatment are not adopted, it may end in extreme anemia and sometimes in death.

Whatever difference of opinion may exist regarding the advisability of active interference for the *immediate* removal of retained secundines, that is, digital or instrumental removal as soon as practicable after the escape of the fetus, inaction now meets the disapproval of all—even of the French *accoucheurs*, who, with few exceptions, adopt a conservative treatment until symptoms arise demanding interference.

The ground upon which I rest the chief claim of the value of electricity in removing these retained pieces is, *the current acts more energetically upon those tissues which possess the least power of resistance—that is, the least vitality; it consequently promotes the exfoliation and expulsion of the decidual membrane or retained placental tissue.* I say, consequently, because these retained or adherent fragments possess a low state of vitality.

Dr. Zinowieff has recently made a study of the pathological histology of retained placenta after abortion, and from his excellent paper<sup>1</sup> I will make a few brief extracts bearing on this subject.

In spite, he says, of the independence of its circulation, the embryo, in course of development, constitutes no less an integral and living part of the maternal organism. It is not a foreign body in the womb, but becomes, by virtue of its multiple connections, a dependent part of it. All is changed with the death or expulsion of the embryo. The circulation in the fetal vessels is arrested instantly. The nutritive changes between mother and fetus cease, and from a living part of the

<sup>1</sup> Dr. Zinowieff, "Etude sur l'histologie pathologique du placenta abortif." *Nouvelles Archives d'Obstet. et de Gynécol.*, 1887, pp. 245, 297, 320.



organism the ovum becomes inert, a foreign and inanimate body inclosed within living tissues. From this time its presence produces a mechanical irritation of the uterine musculature. By a series of contractions the womb endeavors to rid itself of the contents which it no longer cares to tolerate, and after efforts more or less prolonged, expels it.

This is what happens in complete abortion. But the uterus is sometimes unable to accomplish the expulsion of all its contents. The fetus alone may be expelled, leaving the placenta *in situ*, or the passage of the fetus may be accompanied by complete separation but retention of the placenta. The expulsion of the placenta after separation from the uterus does not interest us at present. It is an organized but dead tissue contained within a closed cavity. If it becomes accessible to putrefactive microbes, it decomposes. On the other hand, a sort of humid mummification occurs.

The considerations which follow apply exclusively to the partially separated placenta. The amount of blood circulating in the placenta diminishes with the death of the fetus. The uterine contractions which serve to expel the fetus also break up certain vascular connections. Hemorrhage results, coagula form, and blood channels are obliterated. A certain proportion of the separated tissue no longer receives blood, because the vessels which conveyed it are rendered impermeable. After coagulation of blood takes place in one part of the placenta, thrombosis in neighboring vessels is favored.

One sees, then, the same result take place in the fetal and maternal placenta. In both occur arrest of circulation and obliteration of vessels by clots. There is a difference, however, in the mode of production of this arrest. Whilst the fetal placental circulation is affected immediately after the last pulsation of the fetal heart, in the maternal placenta the arrest of circulation is not so complete, and is not established at once—it is produced little by little.

Deprived of its vessels, the retained placenta can be compared to an organ of which one has ligated its nutrient artery, with the difference only that the ligature is applied slowly and gradually. One sees then, under these conditions, that the placenta retained in the womb can present only modifications retrogressive and necroscopic.

Life, manifested by normal phenomena of growth or of

integral preservation of structure, is no longer possible in the retained placenta. Its nutrition becomes indeed more and more limited in proportion to the progress of the obliteration of its vessels. With complete arrest of circulation, its nutrition is nearly *nil*, and it is preserved only "by a process of imbibition analogous to that of the villous ovum when it reaches the uterine cavity." The chorionic villosity, like the intestinal, is an organ of absorption; the structure and functions of the two can be compared. We repeat, that its circulation and rudimentary nutrition do not permit the placenta to continue to be the seat of normal vital, or of pathological, phenomena.

The above description of the changes in the circulation of the retained placenta, after abortion, clearly demonstrates its low state of vitality. It is like an organ with its nutrient artery ligated; "life, manifested by normal phenomena of growth and of integral preservation of structure, is no longer possible." "It is preserved by a process of imbibition analogous to that of the villous ovum."

This enfeebled vitality, as I have stated, renders the tissue more susceptible to the destructive effect of the electric current. This fact is the key to the value of this method of treatment. Electricity destroys its slight claim of existence; it causes the exfoliation and expulsion of the retained structure.

The action of the curette, on the other hand, cannot be limited to the tissues we wish to remove. It will scrape healthy as well as enfeebled tissue. It is more valuable for purposes of diagnosis, but for the treatment of retained secundines, electricity is greatly superior. In speaking of electricity, the galvanic current alone is referred to. The faradic has already been advised and successfully employed to promote the immediate removal of retained secundines. It acts as a powerful excitator of feeble uterine contraction and in this manner separates and expels retained fragments.

The selection of one or the other current will depend upon the indications of individual cases. For the immediate removal of retained secundines, the faradic; for the remote removal, the galvanic. At present, we are only interested in the latter, but, before leaving the subject, I wish to refer to another indication for the employment of the induced current.

In cases of incomplete abortion, the uterus is always found in a state of subinvolution. It is heavy, congested, and mea-

tures, by the sound, from three to four inches. After removal of the retained secundines, the faradic current is useful to stimulate involution. The applications should be made frequently, at least every other day; the current should be applied directly to the uterus, bipolar uterine faradization, and the coil of quantity, that obtained by a short, thick wire, employed, with moderately slow vibrations. It is advantageous, in many cases, to employ also, once a week, galvano-puncture of the cervix.

By such treatment, we reduce the organ to its normal size, and relieve many distressing symptoms which later might call for operative treatment.

For details of treatment, I will report the following case:

Mrs. X., when three months pregnant, had a miscarriage. The ovum passed intact, except from one side the chorion was missing, the velvety appearance being absent over the corresponding surface.

The cervix contracted, the uterine flow was natural, and the patient made a satisfactory recovery. Contrary to my conviction of what is the proper treatment for such cases, the decidua membrane was not forcibly removed. She was kept under observation for some months, and, as no symptoms occurred to point to the contrary, I led myself to believe that the uterine contents had been evacuated in the usual manner, when left to Nature.

One year elapsed, when I was called again to see this patient, on account of menorrhagia. I then learned that the menstrual flow had reappeared two months after the miscarriage; it had recurred monthly and had been normal, in every respect, for six months. Then missing two months, it had come on profusely and lasted two weeks; missing another period, she next had a free and continuous flow, which lasted four weeks, in spite of appropriate treatment, until, in fact, electricity was employed. Rest in bed, tampons, hot vaginal douches, the administration of astringents and of *hydrastis canadensis* having failed, the curette was used and some shreds of membrane removed, which, on microscopical examination, proved to be pieces of chorionic membrane.

Hemorrhage continuing, the galvanic current was applied two days afterwards. The dispersing electrode, which consisted of a copper gauze, ten by seven inches, covered with absorbent cotton, was placed upon the abdomen and connected with the negative pole of the battery. The positive pole, a platinum sound, was passed to the fundus uteri, and the portion extending from the os externum to the handle was insulated with a tubing to protect the vaginal walls. The current was slowly increased, and sixty milliamperes were passed for eight minutes.

In a similar manner, three more applications were made on alternate days, and seventy, eighty, and ninety milliampères passed at the respective sittings, the duration of each séance lasting from six to ten minutes.

Result: The hemorrhage was decidedly lessened after the first application. The tampons were dispensed with, and the patient sat up in bed without increasing the flow. Bleeding decreased steadily after the second and third sittings, and ceased after the fourth. On the day succeeding the third application, a piece of membrane was passed. Unfortunately it was not kept, but was described by the patient as looking like "gristle." On the next day, while introducing the speculum, preparatory to making the fourth application, a piece of membrane, three-quarters by one-third inch, was found in the vagina, together with several smaller pieces. These, under the microscope, proved to be decidua membrane.

The hemorrhage, as I have said, stopped, and no membrane came away after the fourth application. The patient has remained well since removal of the secundines, the menstruation is normal, and the uterus is steadily decreasing in size under the use of the faradic current and galvano-puncture of the cervix.

Let us inquire into the rationale of the treatment.

Why select the anode as the active pole for intra-uterine application instead of the negative, which possesses greater electrolytic and absorbent properties? 1st, because our purpose is not to promote absorption, as when treating fibromata, exudates, etc., but to secure a *local* effect; to take from these retained pieces the slight existence they have; to cause their separation and expulsion. It is, therefore, evident that if we have been enabled to locate the position of the retained secundines, we should guide the electrode into the corresponding portion of the uterine cavity. In the case reported, the retained shreds were attached to the anterior wall of the uterus, and the platinum sound was consequently brought in contact by being given a decided curve forward.

2d, because the positive pole promotes coagulation. Coagulation, as we have seen, obliterates the vessels of the maternal and fetal placenta, the membrane, etc. The result is, as quoted from Zinowieff, "its nutrition becomes more and more limited, in proportion to the progress of the obliteration of its vessels." It is this, more than any local caustic action, which renders the anode of the galvanic current a valuable agent in destroying the retained secundines after abortion. Separation and expulsion follow closely in the footsteps of its destruction.

3d, because the positive pole is hemostatic. It relieves promptly the most important symptom of retained fragments, viz., hemorrhage. It diminishes congestion, and checks bleeding by a contractile action upon tissues and vessels, and by attracting acids to the parts immediately subjacent.

4th, I think the positive pole possesses another property, one which apparently has been overlooked, and of which I cannot speak definitely yet. *This is, that the positive pole is an antiseptic pole.* Preparations, however, are now being made to investigate this point fully, and I hope soon to make a report of the result that will confirm the belief, my theoretical reason for which is that this pole attracts to it, and to the tissues immediately surrounding it, oxygen, chlorine, and acids.

Oxygen, which is liberated as free gas, is, according to Miquel, the most powerful of known antiseptics. In a classification<sup>1</sup> of antiseptic agents based upon their degree of activity, this author enumerates three agents which possess sufficient power to be considered "eminently antiseptic." They are oxygenated water, bichloride of mercury, and nitrate of silver. A substance is eminently antiseptic if it is sufficient to add only from one to ten centigrams to a litre of broth to prevent its putrefaction. Measured by this test, the relative strength of the three agents is as follows: oxygenated water requires gr. .05; bichloride of mercury, gr. .07; and nitrate of silver, gr. .08.

Bar<sup>2</sup> states that oxygenated water acts by setting free the oxygen it contains, and that its instability and high price are the principal causes which limit its employment—objections which are valueless here because it costs nothing; it is obtained from nature's laboratory, from the fluids of the tissues through which the current passes; it is stable, because prepared only at the moment of use.

Chlorine is also a powerful antiseptic substance. According to the researches of Nicolai Jalan de le Croix,<sup>3</sup> it is capable of preventing the development of bacteria conveyed directly to broth when added in the proportion of 1: 20,208. The pres-

<sup>1</sup> See Bar, Paul, "The Principles of Antiseptic Methods Applied to Obstetric Practice," translated from the French by Henry D. Fry, M.D. P. Blakiston, Son & Co., Philadelphia, 1887 p. 36.

<sup>2</sup> Ibid., p. 38.

<sup>3</sup> Ibid., p. 36.

ence of acids in the tissues may play no unimportant part. Not only do they possess germicidal power, but acid solutions are inimical to the development of bacteria. Thus, they assist, directly and indirectly, the germicidal effect of the stronger agents.

Theoretically, we cannot imagine a more powerful antiseptic combination than this; moreover, the application of the germicide is perfect. It is not simply applied to the endometrium, but it penetrates the parenchyma.

If this theory of the antiseptic property of the positive pole be verified, it will have practical value in the treatment of retained secundines after abortion. It will render the application of electricity for its removal a safer procedure by diminishing the danger of provoking inflammation of the pelvic viscera, a danger more or less imminent, according to the degree of antiseptic precautions taken during any operative treatment of the genital tract. If, by neglect, germs be introduced with the electrode, the current will destroy them.

Again, if putrefactive microbes have already gained access to the retained fragments, decomposition sets in, and life is endangered by reason of liability to septic infection. In such cases, the positive pole has a dual action. It is microbicidal and promotes expulsion of the retained secundines.

Recapitulation :

Placental tissue and decidual membrane retained after abortion possess little vitality.

Coagulation produces obliteration of vessels, and in proportion to its extent the nutrition of the retained structures decreases.

The positive pole of the galvanic current checks hemorrhage, promotes obliteration of the vessels of the secundines, diminishes its vitality, and promotes exfoliation and expulsion.



UTERINE CANCER.<sup>1</sup>

BY

J. FORD THOMPSON, M.D.,

Washington, D. C.

My case is one of uterine cancer, a disease so frequent, so painful, and so destructive of human life as to call always for our deepest sympathies and to demand our most earnest consideration and investigation, that we may be enabled to afford what measure of relief science and art have put at our disposal.

When we look over the field of general surgery, we can but contemplate with amazement and disappointment the lack of ability to cope with this relentless enemy of mankind. So apparent was this only a comparatively few years ago, that the majority of physicians and surgeons admitted the uselessness of interference further than to lessen suffering and thus smooth the way to the grave. When cancer was believed to be of constitutional origin, the almost universal failure of therapeutic and surgical means to afford anything more than temporary relief, and commonly not even that, made it not a matter of surprise that the profession in general should finally conclude that it was a malady against which it had no effective means of contending. But when, a few years ago, the theory was advanced and ably maintained that carcinoma is of local origin, and that only secondarily does it become constitutional, hope arose anew in the professional mind, and it was confidently expected that in the future better results would attend our surgical efforts; for the inference was inevitable that, its local origin being admitted, early operations would be the rule with a strong probability of frequent eradication of the disease under favorable local conditions. So far as medicine was concerned, the new theory gave little or no encouragement. That remained, as it had for centuries, totally powerless to change its course or retard its progress; and even the surgical procedures which were confidently undertaken

<sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, Nov. 18th, 1887.

were unproductive of expected results, so that again the profession was about to fall back to skepticism as regards the local theory of the disease or the possibility of its extirpation. And so it would have done in utter hopelessness if a new era in surgical practice had not dawned upon us in the form of Listerism or modern antiseptic dressing of wounds. So far as the application of this practice to carcinoma goes, the benefit has been mainly derived from the boldness of procedure, engendered from confidence in the method applied in general surgery. Whereas before, the surgeon undertook the operation with little expectation of permanent good and only excised what appeared to be diseased tissue, he now, emboldened by greater confidence, goes far beyond apparently affected tissues, and with greatly improved results. Still advancing with clinical encouragement, the neighboring tissues were extirpated, with the gland structures in the line of infection, and since the adoption of this practice, as far as it can be applied, the achievements have often been most brilliant. As in the extirpation of mammary carcinoma, the methodical excision of the axillary and infra-clavicular glands, even when apparently unaffected by disease, has given evidences to show that we are now working in the right direction, and that surgeons will be encouraged to undertake cases which, a few years ago, were considered beyond any attempt of surgical art. We have only to glance at modern achievements in this line to appreciate the wonderful progress already made. And nowhere I think is this progress more noticeable than in the pelvis of suffering woman. Cancer of the uterus has been time out of mind the *bête-noire* of surgeons and gynecologists alike, and these poor sufferers by the thousand have endured and died without hope and with an amount of physical suffering that makes them hail an early death as a happy relief from a life of unutterable wretchedness.

It would appear from the clinical histories of uterine carcinoma that this organ is particularly amenable to the kind of treatment in question, for its progress here is slower than in most localities, and similar to its development in encapsuled organs. We know how long cancer may exist in the body without invading surrounding parts, and the still more remarkable fact that the cervix may be extensively diseased and the body of the uterus remain for a considerable length of time in a healthy

condition. This is a condition perhaps never seen, at least to the same degree, in any other organ of the body. And then we have another and most fortunate clinical fact, that the variations in the degree of malignancy are more apparent here and present peculiarities which are of aid in diagnosis and prognosis. I think it will be admitted that the papillomatous outgrowth, or cauliflower excrescence, is much less malignant than the purely ulcerative form, and that it has much less tendency to extend in the direction of the body. Undoubtedly, this is the form of the disease which has been time and again cured by comparatively simple measures. One reason of this success is, that such cases are operated on at a much earlier period than the ulcerative, because, presenting itself more in the shape of a tumor, extirpation appears easier and devoid of danger. It has been, and is, a question whether at this stage this condition is really true carcinoma; but even admitting that it is not, that it will eventuate in that disease no one, I think, doubts. That there is a great difference in the history of the two is evident, I believe, to all observers, especially the marked difference as to recurrence after removal.

I shall now give briefly the history of my case.

In July last, I was asked by Dr. Walsh to see Mrs. F., who was suffering, he thought, with uterine cancer. She was 51 years of age, and had always enjoyed good health up to the beginning of spring. The menses had ceased eighteen months before. She had had six children and two miscarriages; no history of cancer in the family. She was pale and haggard in appearance, and excessively nervous and weak. In April, she first noticed leucorrhœal discharge, which soon became profuse in quantity and offensive in odor. She suffered no pain, but early in June she began to lose blood, and this continued almost uninterruptedly to the date of operation. She was given the usual internal remedies, but without avail.

Upon examination per vaginam, I found the upper part of the vagina filled with a large, irregular, friable mass, involving apparently the entire cervix. It bled profusely during the examination. The uterus was perfectly movable, and the vaginal walls, as far as could be determined, were free from invasion. I could detect no enlargement of lymphatics or perimetrium tissues. The doctor had been using tampons to control hemorrhage, and one was applied after the examination.

I gave as my opinion that it was malignant and that it was a proper case for operation.

After a few days of preparation, on August 4th, 1887, I per-

formed the operation, with the assistance of Drs. Walsh and Tyler. When I began, I was undecided whether I should perform hysterectomy or supra-vaginal amputation of the neck, leaving this to be determined when the parts were better exposed; but being rather inclined to the latter.

The neck was seized with two Muzaux's forceps and brought down to the introitus, exposing the growth to view. A strong ligature was passed deeply upon each side through the vaginal vault to aid in the manipulations and also to assist in controlling hemorrhage. The parts were irrigated thoroughly with carbolic solution as the vagina had been previously. After inspecting the parts, I determined to perform the high amputation of the neck. I proceeded, as in hysterectomy, by freeing the cervix in front from the vagina and bladder, but not reaching, of course, the peritoneal reflection. I then dissected off the peritoneum posteriorly up as high as required, using always the sharp-pointed scissors and cutting against the cervix so as to avoid wounding the peritoneum. These two dissections were now united by two lateral ones, so that the entire vaginal portion was perfectly free. The excision of the neck was completed by spiral incisions of the scissors, gradually extending upwards, so that when completed the stump was decidedly conical in shape, the apex extending beyond the internal os. The hemorrhage was quite free, requiring the use of hemostatic forceps and several ligatures, some of these applied during the dissection and some after removal. When the oozing of blood had ceased, the parts were irrigated and sutures applied. These were inserted deeply from before backwards, and no attempt made to stitch the vaginal wall to the mucous membrane, as the patient had passed the menopause and as it would have been difficult to do so on account of the height of the cone. An opening, however, was left in the centre for drainage. The cavity and vagina were packed with iodoform gauze, and compress and T-bandage applied. The operation was completed in about an hour. Suppositories of morphia were ordered and the nurse instructed to draw off the urine every six hours.

She rallied well from the operation and the next morning was quite comfortable. She had no vomiting and no fever. On the third day the gauze was withdrawn, the vagina irrigated, and the dressing re-applied. On the tenth day the sutures were removed, the wound had apparently healed, except in the centre where it had been kept open. She was troubled somewhat at this time by a slight attack of cystitis, which soon passed off. The discharge was slight and soon almost ceased. I examined her a few days ago and found her apparently well. She goes about as usual and complains only of a little pain or uneasiness in the region of the left ovary. Upon examination, she had a normal-looking vagina, and superiorly a small central cicatrix. There was no induration, and the uterus was small and freely movable, without pain.

The operation was performed after the method of Winckel. Nine months ago, I performed total vaginal hysterectomy for cancer of the cervix upon a patient who is as yet free from any appearance of recurrence. She was a great sufferer and much reduced by almost continuous hemorrhage. She recovered from the operation in a short time, and since has been comparatively comfortable and happy, with the exception of that dread of return which never leaves these women. If the operation has been thus far so successful, I think its performance was justifiable and proper, although it may return in the near future.

In the case above reported, the result has been most happy for this woman, bed-ridden, almost afraid to move on account of hemorrhage. She bids fair to have months and, perhaps, years of comfort, with a possibility of permanent cure. Are such results obtained by the procedures in common practice, by caustics, the cautery, sharp spoon, etc.? I have performed what I thought at the time very thorough operations by scraping and the cautery, but never with more than temporary relief. I believe now that, with the experience of the last few years, all doubtful means should be abandoned. We are losing most valuable time by their employment with scarcely the slightest prospect of permanent good. The most favorable statistics ever published by their most enthusiastic advocates are far inferior to those of extirpation by the methods here advocated. Even the galvano-cautery, the statistics of which, according to Pawlick, are very satisfactory, can scarcely be considered as complete and methodical an operation as supra-vaginal amputation with knife or scissors, as it is impossible to make so thorough an amputation without increased danger to neighboring parts.

But the important question is to determine when to perform the major or the less operation. Or is the supra-vaginal method suitable to all cases of uterine cancer which may be considered proper for operation? There are those who believe that it is sufficient in all cases in which an operation is indicated; that it is safer, and that, as regards recurrence, it is quite as satisfactory as the major operation. I certainly agree with those who differ from this view and who believe that total extirpation will afford relief in many in which amputation would be useless, certainly so far as the question of recurrence is concerned. If we accept the very practical divisions of uterine cancer into those of the vaginal portion, those of the cervix, and those of

the body, I should say that all cases of the first variety should be dealt with by supra-vaginal amputation, and that all, or nearly all, of the necks should be treated by total extirpation through the vagina. Of course, there can be no question about those of the body when they are deemed proper for operative treatment.

When the disease is limited to the vaginal portion, we know that it is a clinical fact (besides the further fact that the disease, in a great number of cases, is papillomatous or simple canceroid) that there is little tendency, at least for a considerable length of time, for the disease to extend upwards; on the contrary, it is more likely to involve the vaginal wall. And we know equally well that, in disease of the neck proper, the tendency is in the opposite direction, and in a comparative short space of time the disease will have extended too high for successful amputation.

Now, according to the latest statistics, the mortality after extirpation is not greater than in amputation when thoroughly performed; yet I believe that this will prove to be an error. From the very nature of things, I think the former procedure necessarily attended with more immediate danger to life than the latter, notwithstanding the marvellous results obtained of late.

But, with the above limitations, each operation has its proper field, so far as diagnosis can assist us, and I feel assured that the operator who makes judicious selection of his method to the case in hand, free from all bias and prejudice, will achieve more than he who is wedded to some one pet procedure.

The limit of time required before one can say he has cured his patient has been fixed at three years, and with this limit a complete cure is comparatively rare, but, besides the relief from suffering and death within that period, the percentage of recoveries has been amply sufficient to recommend it to the favorable consideration of the profession in general.

Schroeder, so far as I have been able to learn, performed the supra-vaginal amputation 64 times, with 8 deaths—a mortality of about twelve per cent. In the clinic of Braun-Fernwald at Vienna, where this operation is almost exclusively performed with the galvano-cautery, there have been, so far as reported, 136 cases, with 9 deaths, or a mortality of seven per cent.

Of vaginal hysterectomy, Dr. Post has collected 341 cases



with 93 deaths, or twenty-seven per cent, but at the same time she calls attention to the fact that Fritsch had only a mortality of eight per cent in 24 consecutive cases; Martin nine per cent in 55 consecutive cases; and Staude 16 cases without a death.

Now as to recurrence in supra-vaginal hysterectomy, Schroeder says in a great number of his cases he had recurrence, some after two or three years, and only a few remained quite cured.

Pawlick says, of the 136 on whom Braun operated, 33 were well at the end of periods varying from one to nineteen years. After giving the histories of these cases, as far as could be obtained, he claims at least twenty per cent of permanent recoveries, which is certainly very satisfactory for malignant disease.

Too short a time has elapsed since the revival of the operation of hysterectomy to form anything like a correct estimate of the percentage of recoveries, but it is probably about equal to the above; but it must be considered that the operation, as a rule, is performed in a worse class of cases than the amputation.

I believe, notwithstanding the arguments to the contrary, that, whilst the immediate mortality may be slightly greater in extirpation, the permanent cures will be larger in number than in amputation.

I have purposely refrained from considering the abdominal operation, as only under exceptional conditions can its performance, at the present day, be justified. There are no reliable statistics upon which to base an opinion of it as to recurrence, but the immediate results are so unfavorable that it will rarely be performed in the future. Gusserow says of the 148 cases collected by him, only 42 survived the operation.

The deduction from published statistics is in favor of the two operations I have considered, and I have no doubt that the percentage of recoveries will be immensely greater when the practice shall have been adopted of performing the operation at an earlier stage of the disease than is general at the present time.

---

PUERPERAL PHLEGMASIA ALBA DOLENS.<sup>1</sup>


---

BY

CHARLES E. HAGNER, M.D.,

Washington, D. C.

---

*Definition.*—Phlegmasia alba dolens is a local and secondary affection, characterized by a white and painful edema, consecutive to spontaneous obliteration of a vein by a clot.

*Synonyms.*—There are very many synonyms. Swelling of the thighs and legs of women in child-bed; milk engorgement; edema of lying-in women; ischial milk-abscess; puerperal milk-abscess; hydrophlogosis of lying-in women; hydrophlegmasia of the cellular tissue of the lower limbs; phlegmasia and leucophlegmasia; and crural phlebitis.

*Frequency.*—There is such a confusion of ideas as to the frequency of the disease that one must be content to merely mention the opinions of a selected few. By some it is considered very frequent, while others of equal authority and experience claim that it is very rare. Wyer saw 5 cases in 999 labors; Hull 4 in 800; and Lee, in six years of practice, collected 28 cases. Robert de Latour says he only saw it 4 times in thirty-six years; Hervieux, at the Maternity, counted 6 cases during two years, and Jolly and Gaffe believe it to be less frequent than is generally supposed. The author has only met with 2 cases in nearly eighteen years.

*Time of appearance.*—There is also some doubt about the time of its appearance, but it is generally conceded that it occurs from the fourteenth or sixteenth day after delivery until the end of the fifth or sixth week.

*Symptoms.*—Authors describe two forms of phlegmasia dolens, one benign, with little disturbance of the general health, the other very grave. In the grave form, which is eminently infectious, the edema comes on with great rapidity, preceded by violent chills, the general and local temperature becomes greatly elevated, and areas of simple or bullous erysipelas

<sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, December 2d, 1887.

soon appear. Symptoms of deep abscess are present; the general symptoms are very pronounced; the milk and lochia are suppressed: and often pyemia supervenes, and is followed by death. This variety was more common formerly than at present. At the present time, the common phlegmasia, simple thrombosis, is more generally found, in which the general symptoms are very moderate, and a favorable termination is the rule.

In some, the local symptoms are suddenly manifested. But in most cases chills, fever, rapid pulse, coated tongue, loss of appetite, malaise, and depression of spirits are present before the pain and swelling in the leg. Usually within the first twenty days of the puerperium the woman complains of an intense pain in the leg or thigh, following the course of the femoral vein or its branches, which is the first evidence of disease. The pain is increased by movement or pressure. Soon after the appearance of the pain, the limb rapidly swells, the integument becoming very tense. The swelling is considerable, and sometimes the limb is double its natural size. The skin of the affected limb is white, glistening, and elastic, and, in its later stages, pits on pressure. In some hard, knotty, painful cords are found along the course of the crural veins or its branches. There is loss of muscular power of the limb, which is probably due as much to the fear of pain as to any muscular change. The temperature of the affected limb has not been found to differ from the unaffected in a sufficient number of cases to lay down a positive rule. The swelling is usually confined to one limb; both may be affected, however, but not simultaneously.

The constitutional disturbances vary with the intensity of the case. The pulse is rapid and the arterial tension low; the temperature is high, with an evening elevation; thirst is intense; the tongue is coated, and the breath is foul; the bowels are constipated; the countenance is anxious; there are frequent and profuse perspirations; the lochia are but little influenced, but may be scanty and fetid; nausea and vomiting may be persistent, and delirium and depression of the vital powers may supervene. Barker considers the nausea, vomiting, delirium, and depression of vital powers the symptoms of the consecutive or the coincident phlebitis and pyemia, and that they are never found in uncomplicated phlegmasia dolens.

*Progress and Duration.*—The acute stage lasts about two weeks, when the constitutional symptoms begin to abate, the pulse and temperature fall, the pain subsides, and motion of the limb is possible. The swelling and tension of the limb diminish, and absorption commences. It is always many weeks before the limb is restored to its natural condition. In some rare cases, superficial or deep-seated suppuration may take place. Recovery is the most common termination of the disease. Sudden death from pulmonary embolic obstruction is among the possibilities.

*Complications.*—Pulmonary embolism, gangrene, erysipelas, purulent infections, lymphangitis, and phlebitis are the possible complications.

*Etiology and Pathology.*—R. J. Lee (*Lancet*, London, 1872, I., 497) attempts to establish a connection between erysipelas and phlegmasia. He says: "The opinion entertained by some that the clotting of blood in veins is the cause of the phlegmasia is erroneous, and that they overlook the real origin of it, thus mistaking cause for effect."

D. D. Davis (*Med.-Chirg. Trans.*, London, 1823, XII., 419) mentions four theories, viz.: 1st. Mauriceau attributes it "to a reflux determined to these parts (the lower extremities) of humors, which ought to be evacuated by the lochia."

The same doctrine with some modifications is adopted by Mesnard, who refers to the swellings of the lower extremities of puerperal women to "suppression of the lochia, producing an over-fulness of their blood-vessels, and a consequent arrest and coagulation of lymph in the parts affected."

2d. Metastasis of milk (*dépôt de lait*). This was first advanced by Puzos towards the middle of the eighteenth century, and subsequently adopted by Levret.

3d. Obstructions or other morbid states of the lymphatic organs of the part affected. The originator of this theory is not known.

Dr. Hull, in 1800, criticised the others and offered the fourth theory.

4th. "The proximate cause of phlegmasia dolens consists in an inflammatory affection, producing suddenly a considerable effusion of serum and coagulable lymph from the exhalants into the cellular membrane of the limb. The seat of the inflammation I believe to be in the muscles, cellular membrane and

inferior surface of the cutis. In some cases, perhaps, the inflammation may be communicated from those parts to the large blood-vessels, nerves, and the lymphatic vessels and glands imbedded in them."

Davis then states that "the proximate cause of the disease called phlegmasia dolens is a violent inflammation of one or more of the principal veins within or in the immediate neighborhood of the pelvis, producing an increased thickness of their coats, the formation of false membranes on their internal surface, a gradual coagulation of their contents, and occasionally a destructive suppuration of their whole texture, in consequence of which the diameters of the cavities of these important vessels become so greatly diminished, sometimes so totally obstructed as to be rendered mechanically incompetent to carry forward into their corresponding trunks the venous blood brought to them by their inferior contributory branches."

In confirmation of this opinion, he offers the proofs of dissections and the opinions of several distinguished pathologists.

Tilbury Fox (Trans. Obstet. Soc., London, 1863, IV., 144), after thoroughly discussing the subject, offers the following :

#### SUMMARY.

1. Phlegmasia dolens is a local disease.
2. No general symptoms need be present (implies absence of blood poison).
3. Phlebitis, however produced, cannot give rise to phlegmasia dolens, but edema.
4. Phlegmasia dolens may occur in, but forms no necessary part of blood poisoning (such as tends to phlebitis), but is modified thereby frequently; and any tissue conditions over and above the presence of fibrinous serosity, and the consequent hypertrophous state of the areolar tissue are in nowise essential components of phlegmasia dolens, but common alike to very many different "blood diseases."
5. Obstruction of the main lymphatic channels alone is capable of giving rise to white leg, and acts by preventing the removal of lymph from the affected limb.
6. Obstruction may be the result of: A. Extrinsic pressure; ex. tumors of all kinds. B. Thrombosis, due to sudden (compensatory) absorption of vitiated fluid after sudden loss of any kind. C. Inflammatory changes in the vessels themselves.

7. The effect of the action of the venous obstruction upon the phlegmasia dolens is an intensification of the general swelling and the presence of edema during the subsidence of the enlargement of the limb.

Esler (*British M. J.*, London, 1884, II., 463) describes two cases of phlegmasia dolens of the right leg very minutely, and concludes that both were due to the posture assumed by the woman. He concludes the discussion of the subject as follows: "Whether the cause of phlegmasia be absorption of irritating and poisonous matter only, or whether it be absorption and pressure combined, or pressure of the uterus, or of the uterus and colon, on the veins crossing the brim of the pelvis, or thrombosis and embolism, or any specific poison, is a question not easily determined; but these two cases go some way, I think, in establishing the doctrine that position, with perhaps mechanical pressure added, will account largely for the limb involved in post-partum phlegmasia."

Pinkham (*Jour. Gynec. Soc.*, Boston, 1869, I., 155) gives the following table (p. 594) which exhibits the differences of opinion in regard to the pathology of phlegmasia dolens from the earliest recorded to that of Moxon in 1869. It contains the views of the most prominent writers.

Pinkham says: "All agree that there is venous obstruction, and that from it results the edema. Most of them admit a toxemia, or dyscrasia. But the great question now at issue is, whether or not the disease is inflammatory in its nature. The question is an important one, as on its decision hangs, theoretically, the whole plan of prophylaxis and treatment. On the affirmative we have, among the more recent writers mentioned in the table, Lee, Rokitansky, and Moxon; and on the negative Virchow, Hewitt, and Barnes. The two last-mentioned seem to consider the disease a variety of puerperal fever. Barnes, indeed, calls it 'thrombotic puerperal fever.' We must not, however, lose sight of the fact that their observations have been mostly connected with hospitals where toxemic influences prevail, and where, consequently, the disease is seldom seen in its sthenic type. The position of Virchow I understand to be that coagulation may take place in the veins, and all the ordinary phenomena of the disease result, without inflammation; and that the morbid appearances found after death arise either altogether from the changes which take place in the clot, or partly



Date	Authority.	Country.	Opinion.
1740	Mauriceau	France....	A collection of humors which should have passed off with the lochial discharge.
1759	Puzos....	France....	A metastasis of milk.
1766	Levret....	France....	A metastasis of milk, accompanied with edema.
1784	White.....	Gt. Britain	An obstruction of lymphatics, caused during labor, and followed by an accumulation in them of lymph.
1792	Trye.....	Gt. Britain	Rupture of lymphatics under Poupart's ligament, and effusion of lymph. Inflammation of lymphatic glands caused by pressure, etc.
....	Ferrier....	Gt. Britain	Inflammation of absorbents.
1800	Hull.....	Gt. Britain	Inflammation of all the organs and tissues of the affected limb, and effusion of coagulable lymph.
1817	Albers....	Germany..	A neuralgia causing edema.
1819	Caspar....	Germany..	Inflammation of absorbents, and sometimes of cellular tissue.
1820	Burus....	Gt. Britain	Inflammation of nerves and veins.
Jan.			
1823	Bouillaud..	France....	Inflammation and consequent occlusion of iliac and crural veins.
May			
1823	Davis.....	Gt. Britain	Idem.
1824	Velpeau...	France....	Inflammation of pelvic symphyses, and of veins.
1829	Lee.....	Gt. Britain	Inflammation of crural veins, resulting from an extension of uterine phlebitis.
1833	Dewees....	U. S. ....	Inflammation of the white lymphatics of the cellular membrane of the various tissues of the limb.
1834	Bouillaud..	France....	Second paper. Inflammation of veins, lymphatics, symphyses, and nerves.
1846	Rokitansky	Germany..	Either inflammation of the veins of the inferior extremity, especially of crural veins, or inflammation of cellular tissue. Former may involve lymphatics; latter, an exudative process, often extending to neurilemma and lymphatics.
1846	Virchow ..	Germany..	Thrombosis of iliac and crural veins.
1862	Mackenzie	Gt. Britain	Toxemia or a dyscrasia, resulting in irritation and inflammation of the iliac and crural veins.
1864	Hewittt....	Gt. Britain	Thrombosis, beginning in uterine veins, and extending to iliac and crural veins; dependent on a depressed condition of the vital powers from undue loss of blood, insufficient nutriment, and other causes.
1865	Barnes ....	Gt. Britain	Thrombosis of crural veins, due (chiefly) to hyperinosis, with, as probably in many instances, another morbid material thrown into the blood from the uterus, as a result of exposure to cold, severe mental shock, etc.
1869	Moxon ....	Gt. Britain	Congulation of blood in veins, secondary to a phlebitis which is excited by noxious material absorbed from the uterine surface.

from these and partly from a secondary inflammation which its presence occasions. He does not deny that phlebitis may exist, but denies that it is a necessary morbid condition of the affection. Hewitt and Burnes agree with him essentially, but take more positive grounds against the doctrine that inflammation is the primary and essential pathological fact in the disease."

Boër (Vienna), in 1812, Albers (Bremen), Dugès, and Hankel call it a nervous affection, for there is, they say, insensibility, paralysis, and pain.

According to Dugès and Siebold, the fundamental lesion consists in an inflammation of the nerves of the pelvis and the thighs.

Guthrie, in 1826, in a memoir on inflammation of the veins, following amputations, thinks that phlegmasia alba dolens could take its origin in the uterus, and he thinks it important to follow the course of the veins even to the uterus. This opinion was upheld by Robt. Lee, who shows that in three autopsies the uterine veins were affected with lesions similar to those of the lower limbs. Hence he concludes that phlegmasia generally commences in the uterine sinuses, whence it spreads to the lower limbs.

From the various views here set forth we are compelled to conclude that the advances in pathology have not shed much light on the nature of this disease.

*Diagnosis.*—The diagnosis of phlegmasia dolens is usually easily made from the symptoms hereinbefore mentioned. The principal diagnostic signs are the sudden onset of the pain and swelling, and the absence of those grave symptoms that usually accompany phlebitis, lymphangitis, erysipelas, pyemia, and septicemia.

*Prognosis.*—By some it is regarded as a very serious affection; by many more as very benign; and a few prefer to be very reserved in their prognostications. Recovery is the rule in uncomplicated cases. In a small number the disease becomes chronic.

*Treatment.*—The local treatment consists in bandaging the leg with a rubber or flannel bandage, and in keeping the affected limb perfectly at rest.

Local and general anodynes should be given to secure sleep and relieve the pain.

The constitutional treatment consists in building up the system by nutritious foods and tonics.

CASE.—Monday, July 25th, 1870, I was called to see L. C., colored, aged 30, who had been delivered by a midwife of a healthy male child, Friday, 22d inst. Her pulse was 140; respiration 34 per minute; excited but not delirious; headache intense; abdomen exquisitely tender upon the slightest pressure; and she complained more of great pain in the right leg than of any other symptom. Upon examination, the limb was seen to be enormously swollen from the pelvis to the toes; and upon feeling for the femoral vein it was found to be hard and distended, feeling like a piece of a small clothes line under the finger. This was my diagnostic symptom. The pain in the limb seemed unbearable, causing the patient to writhe and groan most piteously. Her breasts were painful but contained no milk; the lochia were almost normal, only slightly scanty; the bowels were very constipated; and she had not passed urine for forty-eight hours.

I could get no history of the labor at the time except from the husband, who said it was her first child and that she had a very hard time, but he knew none of the particulars.

I ordered her at once  $\bar{z}$  i. of castor oil, warm water dressings to the limb, and hot poultices to the abdomen. I returned to my office to procure a catheter, was called away, and so did not see the patient again for five hours. When I passed the catheter only a few drops of very ammoniacal urine came away. The oil had acted very freely in my absence, but the headache and fullness had not passed off, in fact they were more severe. The poultices to the abdomen could not be borne, they caused such pain. As there was no urine in the bladder on the 29th, I began to fear uremia, from suppression, in addition to the phlegmasia and metritis which were already present.

I was forced to this opinion from the increase of the headache and the urincus odor from her skin. Props to keep the bed clothes off the abdomen and leg were ordered. Poultices of flax-seed meal, made very light and thin, were applied to the abdomen and were borne tolerably well. A diuretic mixture of tincture of squills,  $\bar{z}$  i.; tincture of digitalis,  $\bar{z}$  i.; acetate of potassium,  $\bar{z}$  ij.; sweet spirits of nitre,  $\bar{z}$  i.; and water,  $\bar{z}$  iij. Dose: a dessertspoonful every two hours; and a solution of chlorate of potassium every alternate hour, as a drink, were ordered.

26th, 10:30 A.M.—The catheter was passed but no urine found; she was beginning to be slightly comatose; and the smell of urine from the skin was very strong. I ordered the diuretic mixture to be continued, for, if it did not act on the kidneys still it, at least, helped the skin, which was acting vicariously to a great degree; warm poultices over kidneys. Sodii sulphit.,  $\bar{z}$  ij.; Aquæ, fl.  $\bar{z}$  i.; Glycerinæ, fl.  $\bar{z}$  iij.

Dose: Tablespoonful every alternate hour with the diuretic mixture.

This I gave with the antiseptic property of the sulphite in view. While writing this prescription, the woman had a severe convulsion which lasted several minutes, so I also sent for ether and awaited its arrival. She had another convulsion before the messenger returned; and she would fall into a comatose state between them. I gave her a dose of the medicine when it arrived; and upon another convulsion supervening put her under the ether (Squibb's), which cut the paroxysm short in a few minutes. I kept her partially under it for one hour, and upon leaving told her sister to let her sniff a little from a handkerchief if there was a return of the convulsions, and to continue the diuretic and the last mixture every alternate hour. Saw her again that afternoon at 2 P.M., and learned that she had only had one convulsion since I left at 12 M. She seemed more comfortable; was not breathing so heavily; and could be roused to take anything, but would not speak.

I will here state that the limb was covered with large blebs, and was still enormously swollen; and it was kept constantly covered with warm water dressings and oil silk. I made several incisions in the leg to relieve the tension, and urinous smelling serum exuded. Same treatment continued.

6 P.M.—Symptoms somewhat better; pulse not so full and rapid, and has fallen ten beats in the minute. I passed the catheter and drew about a half tea-cupful of urine (the first obtained in three days and a half); which was highly albuminous; she had no return of the convulsions; and the skin was not acting so freely. The same treatment was continued and a steam bath added.

27th.—Upon entering the patient's room I saw that a marked change had taken place in the atmosphere; all the urinous odor had left; the woman was conscious; would answer questions; but still complained of great pain in the leg and abdomen. I passed the catheter and, to my great satisfaction, drew off two bowls full of urine—in all one quart. From this time she began to improve.

I gave her a pill of a grain of quinine and one-fourth of a grain of opium every three hours, as she still had great tenderness upon touching the abdomen, and I now considered the opium not contra-indicated. Still kept up the diuretic and sulphite of soda mixtures, but they were not given so often. Beef-tea was also ordered.

Upon visiting her that evening I found that she had had a refreshing sleep; had passed some urine naturally; and the abdomen and limb were still very painful.

From this date I continued to see the patient daily for one week, and her condition gradually improved. The skin came off the right leg like the finger of a glove, in large masses that had to be removed with a knife, as they would catch in the bed-

clothes and cause great pain by pulling on that which was not ready to separate. The tenderness in the abdomen and the swelling in the leg left their respective seats gradually. The treatment was discontinued as the indications for its use seemed to be removed, the opium and quinine being kept up until all tenderness in the abdomen had subsided, when the patient was put on tonics and a generous diet.

About a week after I had ceased visiting her I was sent for, when I found her with a large abscess on the outer side of the right knee-joint, which was opened and treated with poultices. As there were signs of an erysipelatous inflammation extending up and down the limb over a much larger space than the usual attending redness of an abscess, I was afraid erysipelas might supervene, and ordered her tincture of the chloride of iron and chlorate of potassium in large doses, and renewed the sulphite mixture, which had been discontinued for some time. After she had recovered from this attack and begun to get her strength, the secretion of milk returned after being absent nearly three weeks. Her child nursed her and thrived until about the last of September, when it died of cholera infantum.

I will here state that the nails of the fingers and toes seemed to die during the disease, and upon recovery there was a distinct line of demarcation between the root of the nail, or more correctly the lunula, and the white dead portion, which line seemed to ascend as the nail grew until it reached the portion which is usually cleansed with the pen-knife.

Among the points of interest in this case was the fact that the lochia were present, although there was such violent constitutional disturbance. Upon studying the disease I find that this is spoken of as a remarkable fact in this disease by some authors.

In this case the right leg was the one affected, but usually it is the left. Several reasons are given in the books why this should be the case, but none of them are founded on any anatomical principle. They are such as "because women generally lie on the left side," or "because the occiput of the fetus is generally directed to the left." The position and presentation were not ascertained in this case.

I consider it began in the uterine branches of the hypogastric veins, because the pain existed in the uterus before the limb became affected. For the abscess that followed I accept Virchow's theory of embolism.

CASE II.—Mrs. P., aged 25, white, gave birth to her second child October 5th, 1883. Three weeks before I saw her she had been delivered with forceps by a Homeopathic physician, after

having been in labor thirty-six hours, during which there was constant flooding. She told me that her left leg had been affected for two weeks, or that it had begun when her child was a week old. The doctor told her it would come all right and did nothing for it. As she was getting worse all the time her family became alarmed and the doctor was discharged, and the case fell into my hands.

I found the leg enormously distended, could detect easily the enlarged vein; the patient was suffering upon the slightest motion. The local treatment was similar to that in the first case. After three weeks the patient made a good recovery, but was very anemic for several months.

This, you will see, is a very simple case in comparison with the first.

1507 H STREET, Washington, D. C.

---

## THE TECHNIQUE OF GYNECOLOGICAL SURGERY.

---

BY

R. S. SUTTON, M.D., LL.D.

Pittsburgh, Pa.,

Fellow of the American Gynecological Society.

---

I. DURING the last decade the surgical mind has been intensely occupied in the erection of protective measures for surgical cases.

Every system of protection has been based upon the idea that certain deleterious germs living in the atmosphere, in the water, or upon the surface of the patient's body, upon the instruments, or in the surgical dressings must be destroyed. Pasteur originally conceived the idea that without germs no putrefaction could obtain. Lister evolved this idea from a surgical standpoint, and the result of the evolution was his antiseptic system. After years of experimentation, his conclusion was that carbolic acid possessed the properties of a reliable germicide, and was a desirable dressing for wounds. From that time forward new germicides were proposed by new thinkers, and to-day every prominent surgeon is found using one or another germicide, or discarding all. The tech-



nique of a gynecological operation from Kiel to Vienna a few years ago, and possibly even now, might be encompassed by the two words—carbolic acid. Recently we hear much of the mercuric solutions. In Great Britain the Listerites were in the ascendancy. In the United States the methods of Mr. Lister, accompanied by its carbolic acid, slowly but surely captured the profession.

The reactionary wave of opposition to the carbolic acid feature of Lister's method was set in motion by Thos. Keith, Prof. Von Bruns, Dr. Bantock, and Mr. Lawson Tait. This wave completely submerged the usefulness, if indeed any ever existed, of carbolic acid, and while it did this, it stimulated inquiry as to why, under Lister's system, surgical mortality has been decreased.

Keith, Bantock and Tait, by a long series of operations, proved beyond a doubt that, in so far as intra-abdominal operations were concerned, it was the cleanliness, which was of necessity a part of Lister's system, which was to be credited with the good results of the entire system.

Mr. Lister affirmed that the orifices of the human body swarmed with bacteria which, if not destroyed, would produce suppuration in wounds made in their neighborhood. It is rational, therefore, to infer, that great care should be observed in operations in the nostrils, mouth, rectum, and vagina. The gynecological surgeon would be the one most likely able to determine to what extent this assertion is correct. Experimentation is so often such an expensive school that few men can afford to attend it.

At the present time there is probably not a single continental gynecologist who rejects germicides. The same may be said of the gynecologists of our own country. But it is equally true that a large number have ceased to use carbolic acid, and that some use a germicide to wash out the cavity in which it is proposed to operate, and also apply a germicide to the line of the closed wound, but who rely upon cleanliness and boiled water throughout the operative procedure. The gynecological surgeon operates not only upon the surface, but also in the outlets of the body, and within the peritoneal cavity. He has proven that a clean surface, clean tools, clean sponges, clean assistants, and complete irrigation, coupled with surgical dexterity, constitute the requisites for the obtaining of good re-

sults in the great majority of intra-abdominal operations—the exceptions being cases of malignant disease, long-continued drainage, accidental intestinal obstruction, or uremic poisoning from contracted kidneys.

Carbolic acid has been shown to be an additional source of danger, producing higher temperatures than would otherwise obtain, and of producing congestion of the kidneys.

During the past five years a very considerable portion of my own surgery has been done in my private hospital. For about four years no carbolic acid has touched the patient. After the closing of the abdominal wound, a layer of iodoform gauze and a heavy layer of cotton have constituted the entire antiseptic feature of the operation, excepting that the surface of the abdomen, prior to operation was washed with soap and water and then with a  $\frac{1}{1000}$  solution of bichloride of mercury. The result has been that the abdominal wounds have healed by first intention, and in but two instances have abscesses formed in the neighborhood of the wound, eventually discharging through a stitch-hole. In the last seventeen sections for ovarian disease, there were sixteen complete operations and sixteen recoveries. Free irrigation of the abdominal cavity was practised in all; very little sponging was done; excepting in one or two cases, no opium was given, and the bowels were moved daily by means of a seidlitz powder or a teaspoonful of sulphate of magnesia. The cases caused neither loss of sleep nor anxiety on the part of nurses or doctor.

To elucidate more clearly the technique which five years of experience has caused me to adopt, the following ovariectomy is given in detail from the note-book.

Prior to the operation all instruments are thoroughly cleansed and scalded, and every pincet point and needle-eye is passed through a spirit-flame. Ligatures are kept on reels submerged in an antiseptic solution, which is scalded out before they are used.

CASE 63.—Mrs. B.—Beaver Co., Pa., aged 31 years; married fourteen years; widow four years; five children, no miscarriages; last confinement five years ago. Tumor discovered about one year before operation, growing rapidly during the last few months. Tumor about the size of the uterus at term. The instruments, sponges, and ligatures were placed in hot boiled water. The operator and his assistant washed their hands and

arms thoroughly with soap and water, then with ammonia water, and finally dipped them in a  $\frac{1}{1000}$  solution of bichloride of mercury. The incision through the abdominal wall was made rapidly, occupying a few seconds only; the cyst exposed, evacuated through a trocar, pulled through the opening, the pedicle tied and burnt, and the cyst removed in four minutes. The fingers were then passed into the abdominal cavity and a careful examination of its contents made. The operation being as hurried as might be up to this point, great care and deliberation were exercised in the succeeding stages.

The abdominal cavity was carefully washed out with warm boiled water, all blood, fragments of tissue or foreign material of any kind floated out, and the surplus water removed by sponges attached to holders.

Before securing the wound a large flat sponge was placed over the intestines under the site of the incision; the stitches inserted, after which the sponge was removed.

After the wound was closed, some iodoform was rubbed along its edges, a strip of iodoform gauze placed over it, then a heavy layer of absorbent cotton, and the whole secured by a binder. The entire operation lasted thirty minutes; the recovery was uninterrupted.

So much for the technique of the abdominal work. The principal work done in the vagina consists of cervical and perineal operations.

When the cervix alone is operated upon, the silk-worm gut suture is used, the ends being left long.

When cervix and perineum are operated upon at the same sitting, catgut or very fine silk is used in the cervix, neither requiring attention before the perineum has entirely healed. In perineal operations not involving the sphincter ani muscle, the same variety of silk is used. These sutures are all superficial, and excepting three or four, lie entirely within the vagina.

The time occupied in operations for lacerated cervix, single or double, varies from five to twenty minutes—and in perineal operations from fifteen to twenty-five minutes—the latter requiring more thought and careful examination as to the exact variety of tear which has occurred.

In this operation it is the rule to carefully repair only such tissue as has been injured, and never to destroy with scissors or knife, tissue which has not been injured.

Before operation, in either case, cervix or perineum, the vagina is washed out with hot water after the vulva has been

cleansed with soap and water. This douche is repeated after operation, the vagina dried with cotton or a soft sponge, and the parts operated upon covered with iodoform. As a rule a rise of temperature above 99° does not occur. Union by first intention is the uniform result. In neither operation is pus ever seen, nor is the patient inconvenienced beyond the necessity of lying in bed.

The older I grow in experience the more I am inclined to believe that cleanliness, with dexterity in operating, are the secrets of success, and I think it is at least wise to relegate all chemicals to a secondary position.

419 PENN AVENUE.

---

## OBITUARY.

---

### EDWARD SWIFT DUNSTER.

---

EDWARD SWIFT DUNSTER, who died at his home at Ann Arbor, Mich., on May 3d of pneumonia, was born in Maine fifty-four years ago. He obtained his collegiate education at Harvard, and graduated in medicine in New York. During the war of the rebellion he served as a medical officer in the Army of the Potomac, and, at its close, settled in this city, where he became connected with the *New York Medical Journal*, of which he was for several years the editor. He was also connected at this time with the University of Vermont and the Long Island College Hospital. He was appointed Professor of Obstetrics and Diseases of Women and Children at the University of Michigan in 1873, and has held a similar position at Dartmouth College since 1881.

Genial and kind-hearted, he was highly esteemed for his personal qualities, as well as for his clear insight into the requirements of medical education, and his skill, energy, and success as a teacher.

---

## CORRESPONDENCE.

---

### REMOVAL OF UTERINE MYOMA BY COMBINED ABDOMINAL AND VAGINAL HYSTERECTOMY.

---

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

---

SIR:—I find in the JOURNAL OF OBSTETRICS for April containing the very interesting report of the proceedings of the Chicago Gynecological Society for Dec. 16th, 1887, that Dr. E. C. Dudley, in reporting a case of vaginal hysterectomy, is quoted as follows :

“ This operation may have a wider field than ordinary vaginal hysterectomy ; I have determined that the next case I have of uterine myoma in which supra-vaginal hysterectomy would ordinarily be performed, to open the abdomen, lift the tumor out through the abdominal wound, and then, instead of using the *serre-nœud*, to secure the broad ligaments by means of lock forceps in the vagina.”

If Dr. Dudley will examine the *Medical Record* for December 24th, 1887, he will find that he is anticipated in this suggestion.

In the proceedings of the New York Pathological Society, held Nov. 23d, 1887, and reported in this number of the *Record*, Dr. Mary Dixon Jones, in presenting a uterine fibroma removed by operation, made the following remarks :

“ Dr. Jones suggested a modification of the operation by first liberating the vaginal wall, then opening the abdominal walls and removing the *entire* organ ; then closing the abdominal wound entirely and leaving the vaginal opening as the most natural mode of effecting drainage.”

On February 16th, 1888, this conception was put into execution. The tumor, a myoma weighing about thirteen pounds, was presented to the New York Pathological Society, with a history of the operation, on Feb. 22d. (See *Medical Record*, xxxiii., No. 13.)

At the time the proposed operation was modified to suit the exigencies of the case. The abdomen was first opened and the mass of the tumor removed above a wire *serre-nœud* which encir-

clad the cervix. The abdomen was then temporarily closed and the vaginal connections of the uterus severed from below. This was the most difficult part of the whole operation, from the fact that a portion of myoma occupied the cervix so that it could not be drawn down into the vagina. After the cervix was freed, the thumb and index finger of an assistant were made to straddle the right broad ligament, from within the pelvis, so as to serve for a guide in passing the blades of a pair of large forceps from below around the broad ligament on this side. After this was accomplished the completion of the operation became a simple affair and the remaining uterine connections were rapidly secured with ligatures and forceps. The loss of blood was trifling.

The patient made a splendid recovery and was presented to the Society April 11th.

(This operation is reported in full in the *International Journal of Surgery*, April.)

I quite agree with Drs. Dudley and Etheridge in regard to the value of the lock-forceps in vaginal hysterectomy. Scattered through the proceedings of the Pathological Society for 1887 will be found reports of five consecutive vaginal hysterectomies, performed by the same operator, Dr. Mary Dixon Jones, all of which recovered. (See also *N. Y. Medical Journal*, February 11th, 1888.)

One of these operations was for sarcoma of the uterus. In all of these operations, the forceps have done herculean service.

One of the operations which I timed was completed in thirty-three (33) minutes.

CHAS. N. DIXON JONES.

BROOKLYN, April 11th, 1888.

---



## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

*Stated Meeting, April 3d, 1888.*

*The President, DR. H. T. HANKS, in the Chair.*

### DEATH FROM PERITONITIS FOLLOWING TRACHELORRHAPHY.

DR. JAMES B. HUNTER presented a specimen with the following history :

Mrs. M., aged 31, entered my service in the Woman's Hospital, December 20th, 1887. She had one child eight years ago, at which time she had a bad laceration of the cervix. At the time she came under my care, she was suffering from neuralgia and other nervous symptoms. Menstruation was normal, but was followed by an offensive leucorrhea ; and there was a profuse cervical discharge all the time. On examination, the uterus was found to be rather less than normal in size, perfectly movable, and free from tenderness. She gave no history or evidence of having had peritonitis or pelvic inflammation at any time. The temperature, which was taken several times, was normal, as was the condition of the heart, lungs and kidneys. The cervix was congested, as is usual in such cases, and hot water was used thoroughly until she was ready for operation.

On January 2d, 1888, the patient being a few days over her period, the usual operation was performed. The laceration was on one side only ; all the hard tissue was removed, and the wound was closed with silver wire. There was nothing unusual about the operation, and even less traction than usual was made in bringing the cervix into view. Twelve hours after the operation, the temperature in the axilla rose to 102°. Six hours later, notwithstanding the free use of antipyrin, the temperature was 103°, twenty-four hours after the operation it was 104°. The sutures were then all removed, the lips of the womb held apart and thoroughly irrigated with a bichloride solution. The cavity of the uterus was also washed out. There was no pus discovered, nor was there anything unusual in the appearance of the wound. The following day, the patient had well-marked septic peritonitis, of which she died on the tenth day.

I am indebted to Dr. Coe, Pathologist to the Woman's Hospital, for the following notes of the autopsy :

Abdomen slightly distended ; uterus small, retroverted, and freely movable, there being entire absence of induration at the bases of the broad ligaments. In the lower part of the abdominal cavity, there were about ten ounces of thick, yellowish odorless

fluid. There were no intestinal adhesions. Spleen, liver, kidneys, and stomach normal. The serous coat of the intestines was intensely congested throughout. The coils of small intestines in Douglas' pouch were covered with patches of organized lymph. The uterus was small, the cervix soft and gaping. The cervical mucosa presented a black, sloughing appearance, while the endometrium of the body was only moderately congested; the uterine wall was of normal thickness and appearance. The ovaries were covered with lymph, but not adherent to adjacent organs. On section the stroma appeared to be the seat of intense congestion, with here and there a purulent focus. In the left ovary there was a recent abscess about half an inch in diameter. The tubes were of normal size, but were congested and were the seat of catarrhal inflammation, but were free from pus. The broad ligaments gave no evidence of recent or former inflammation. The venous plexuses were dilated and filled with blood. One large vein, extending directly outward from the sloughing cervix, contained a thrombus (non-purulent). Rectum, bladder and vagina normal.

The case is one of much interest, Dr. Coe remarks, as showing that the septic process left only slight intermediate traces in its course from the cervix through the uterus to the tubes, and thence to the peritoneum. The thrombosis of the pelvic veins he considers merely an accompaniment, and not the cause, of the general peritonitis, which clearly originated in the tubes.

This case is the first one that has ever occurred to me in which death followed as a direct result of an operation on the cervix. All the usual precautions were taken before and during the operation, and so far as I was able to ascertain by immediate and careful inquiry, there was nothing in connection with the room, the assistants, the instruments, or anything pertaining to the case, which might be suspected as a source of infection.

The vigilance of the house surgeon, Dr. Outerbridge, and his prompt warning of threatening danger, enabled me to take every possible precaution early, and I have consequently nothing to regret as to the treatment. I could find nothing to account for the peritonitis.

This case is of interest in connection with a case very similar. I believe, reported by Dr. Lee at the last meeting of this Society.

#### DEATH FROM PERITONITIS FOLLOWING THE REMOVAL OF A CERVICAL FIBROID.

Dr. Hunter exhibited a second specimen with the following report:

Mrs. W., 39 years of age, entered my service in the Woman's Hospital, January 12th, 1888. She had been married ten years, but was sterile. For three years menstruation had been profuse, and latterly there had been severe hemorrhages from the uterus, and she was very pale and anemic.

On examination, a fibroid about two inches in diameter was found in the posterior wall of the cervix, and it was decided to remove it.

Operation January 23d, 1888. The patient being placed under ether, and the uterus drawn down gently, the tumor projected so far posteriorly that it was easily removed by an incision made directly over the posterior surface, in the median line. The mass was shelled out entire, with the greatest ease, and the cavity was packed with iodoform gauze, the operation lasting about twenty minutes. The canal of the uterus was not touched, as it had been curetted some time previously. There was very little hemorrhage from the wound.

Unusual precautions were taken to render the operation aseptic, as I had anticipated a more difficult and dangerous procedure, possibly the removal of the tumor through the cervical canal.

This patient also developed septic peritonitis and died on the fifth day. Dr. Coe has given me the following report of the autopsy:

The abdomen was somewhat distended, and contained six ounces of inodorous pus. The serous coat of the intestines was congested and covered with flakes of lymph, but there were no adhesions, parietal or visceral. Abdominal viscera normal. The uterus was three inches in depth, retroflexed, and movable. There was no induration in the broad ligaments. In the anterior lip of the cervix there was a cavity about an inch in diameter, with a ragged, sloughing wall, but containing no pus. The endometrium was hyperemic. Both ovaries presented fibroid indurations resulting from chronic ovaritis. They were covered with organized lymph, but did not show congestion of the stroma. The tubes were swollen and congested, but contained no pus. There was no evidence of either old or recent inflammation in the tissues or vessels of the broad ligament.

This case presents a striking similarity to the one previously reported, in the absence of purulent endometritis and salpingitis, which are usually associated with septic infections originating in the cervix. The rapidity with which the septic infection traverses the endometrium shows the necessity for removing the sutures early, if their removal is expected to accomplish any good. In the first case the sutures were removed earlier than usual. In the second case the wound was rendered aseptic from the first, and kept in that condition by frequent dressing. The question which naturally suggests itself in regard to treatment is, whether any good would have been accomplished by performing laparotomy and washing out the abdominal cavity. This method was not adopted, because in previous somewhat similar cases, other remedies, as quinine, antipyrin, the cold coil, together with aseptic irrigation, had, in my experience, always proved sufficient to arrest the disease and prevent a fatal termination.





I think if a similar case were to come under my care, I should perform laparotomy and irrigate the cavity of the abdomen.

VAGINAL HYSTERECTOMY--RECOVERY.

Dr. Hunter showed a third specimen with the following history:

Mrs. K., aged 47, came under my care in the New York Cancer Hospital, January 10th, 1888. She had ten children and four miscarriages. Menstruation regular. For one year past she had suffered from pelvic pain and an offensive discharge, generally watery, but sometimes consisting of blood.

Examination showed well-marked epithelioma of the cervix which broke down and bled freely on being touched. The uterus was free and movable. January 19th the patient was placed under ether, and the diseased portion of the cervix removed by scraping with a sharp curette.

On February 8th the patient was again placed under ether, the uterus drawn down by means of Bernay's intra-uterine forceps, and the cervix separated from the vagina by a circular incision. The bladder having been carefully dissected off, the peritoneum was opened anteriorly and posteriorly, and by means of my projecting needle, a ligature was easily carried round the left broad ligament encircling all the vessels. This was replaced by forceps, and the uterus was then separated on that side. The same process was repeated on the opposite side, and all bleeding points were secured by forceps, of which several pairs were allowed to remain. The vagina was tamponed with iodoform gauze. The forceps were removed forty-eight hours afterwards, and the patient made a perfectly good recovery, and is now walking about and feeling perfectly well. There was at no time any considerable rise of temperature, and the convalescence was as uneventful as after the simplest operation on the perineum.

In this case, clamps were used altogether in place of ligatures, and they have some advantages.

In answer to a question by the PRESIDENT, Dr. Hunter added that the time consumed in the operation was less than an hour.

VAGINAL HYSTERECTOMY--RECOVERY.

Dr. Hunter also reported the following case and presented the specimen:

Mrs. G., aged 35 years, came under my care, in the Cancer Hospital, March 5th. She had had two children. She had not menstruated since last June, but had a constant watery or bloody discharge. Examination showed the disease to be unquestionably advanced epithelioma of the cervix, but the uterus was movable and apparently not involved.

On March 28th, the uterus was removed by the same method described in the previous case, but the operation was one of much



greater difficulty, the vagina being small, the cervix very soft, and the canal of the uterus also soft and difficult to seize with any instrument. The vessels were clamped, as far as possible, before being cut, and clamps were used throughout, in place of ligatures. All bleeding points that appeared after the removal of the organ were secured by clamps, of which eleven pairs were allowed to remain. As in the first case, there was no bleeding whatever after the operation, and the clamps were all removed after forty-eight hours. The patient has so far done perfectly well and bids fair to make a good recovery.

DR. COE.—The cases of septic peritonitis presented this evening resemble those reported at a former meeting, when it was suggested that possibly the infection extended through the lymphatics; but, I am inclined to believe that the trouble spread through the tubes, since there was catarrhal salpingitis, and the ovaries were covered with recent organized lymph. The occurrence of all these cases shows that there was septic infection. If it was not introduced at the time of the operation, it is possible that the nurse may have carried the infection. The teaching is to remove the stitches at once where there is any trouble, but is this due to the irritation of the stitches? Examination of the several specimens showed no purulent focus within the pelvis, but simply acute hyperemia of the mucous membrane, and, further, there were no pockets of pus about the angles of the laceration. In these instances, we find, as a rule, either pelvic abscess or general peritonitis. It would hardly be possible to arrest either of these processes by the removal of the stitches. Indeed, it is an open question how much benefit the removal of the stitches would effect after infection has once taken place, and above all after the inflammation had extended to the tubes.

DR. TUTTLE remembered a case where he had allowed the house physician to perform Emmet's operation with removal of a deep cicatricial plug. The second day after, a chill occurred, the temperature rose to 107° F., the stitches were removed, the uterus washed out, and there was no further trouble.

DR. MCLEAN.—It would be interesting if it were possible to trace the source of infection in these cases; possibly the nurse may have conveyed it, for they sometimes appear in groups. What causes the sepsis? Why should such a simple operation produce this septic inflammation? It is a significant fact that generally there are several cases following each other. Nearly always there is a second or third case in the same institution or in the vicinity. I am not a believer in the theory that there is some subtle influence in the air, but there seems to be something in the attendance which it would be desirable to study.

DR. JACOBUS said that Lister recommends, in operating on these cases, the use of chloride of zinc in solution sufficiently strong to slightly cauterize the tissues without preventing union by first intention.

DR. HUNTER corroborated the fact that several such cases sometimes occur in the same ward.

THE PRESIDENT.—Or in the same pavilion. This happened in the case reported by Dr. Lee, where an epithelioma complicated with pregnancy was operated on a few weeks before; it was a very foul case.

DR. JANVRIN.—I have nothing special to say, as I happened to come in just as Dr. Hunter was finishing the recital of his case. I have used the clamp forceps in two cases in which I performed supra-vaginal amputation, and dispensed with the ligatures altogether. This was a year and a half ago. It is wonderful how much both of these operations are shortened by the use of the clamps instead of the ligature.

#### TUBAL PREGNANCY.

DR. G. M. TUTTLE showed a specimen derived from a woman aged about 21, who had been sterile since her marriage. In December last, she gave a history of a sudden attack of violent peritonitis, from which she recovered slowly; since then she had suffered almost constant pain. Examination under chloroform disclosed a hard mass at the left of, and not closely connected with the uterus. At the operation, performed two weeks ago, Dr. Tuttle found extensive general peritonitis, and had the misfortune to tear the intestine for the length of a finger; the injury was repaired with Lembert's sutures. After peeling through the capsule of peritonic exudation which came away easily, he exposed a slate-colored tumor, from which some matter was oozing which seemed to be blood coagula. He quickly enucleated the tumor, which was attached to the base of the broad ligament, and applied a series of mass ligatures. Dr. Thatcher, the pathologist of the Polyclinic, pronounced the tumor to be a ruptured tubal pregnancy. The specimen exhibited showed the ruptured tube and various portions of the encapsulating peritonitis. The patient made a good recovery.

#### CYST OF THE BROAD LIGAMENT.

Dr. Tuttle presented a second specimen removed from a patient who gave a history of chronic pelvic peritonitis, with dysmenorrhea. It showed a typical simple cyst of the broad ligament, which had been adherent throughout, but was removed entire.

#### INTESTINAL STRANGULATION AFTER TAIT'S OPERATION.

Dr. Tuttle exhibited another specimen, consisting of a pair of seriously diseased uterine appendages, in the removal of which he was compelled to ligate numerous adhesions. The patient made a good recovery from the operation, but two weeks after she presented symptoms of intestinal strangulation, and he re-opened the abdominal wound. The small intestine was found distended and bound down, and in freeing it was lacerated; the injury was repaired with Lembert's sutures. The curious feature of the case was that the operation was successful as far as could be determined, and the strangulation was due to a band which divided Douglas' cul-de-sac into two pouches; the posterior of these could hardly be ascertained, but it formed a small pocket where the intestine was slowly strangulated.

## REGULAR MENSTRUATION AFTER TAIT'S OPERATION.

Dr. Tuttle exhibited a fourth specimen as bearing on the influence of the removal of the ovaries and tubes on menstruation. The operation was performed in February, 1887, and the patient made a good recovery. She had menstruated regularly ever since, and her sexual feelings were in no way modified. The specimen showed that the tubes had been completely removed.

DR. LEE inquired whether Dr. Tuttle had diagnosed the existence of extra-uterine pregnancy with sufficient certainty before operation; also, whether his operation would come under the head of primary laparotomy for extra-uterine pregnancy.

DR. TUTTLE replied that in view of the signs and symptoms present—enlargement of the uterus, hemorrhage, and pain—his diagnosis lay between extra-uterine pregnancy and dermoid cyst. As to the second question, he was unable to express any opinion as to the state of the question in this country; the foreign view was in favor of immediate operation when the condition is discovered, and it seemed to him to be justified. He did not believe that the safety of the woman was best secured by destroying the embryo by electricity, and he decidedly favored primary laparotomy. Tait's successes leave us little doubt as to the safety of such a course.

DR. MUNDÉ said that he would protest against the remark that if we detect a tubal or extra uterine pregnancy, we should at once do laparotomy. The results obtained in this country from resort to electricity have shown that such an assumption is not warranted. The Germans and Mr. Tait have achieved wonderful results by laparotomy, but so have we in this country by the destruction of the fetus by electricity. We ought to put ourselves on record as not in favor of the method of Tait and the German operators. If the tube has ruptured or is in danger of rupture, then laparotomy is, of course, indicated.

As to the other point, the recurrence of menstruation after removal of both ovaries, we all have met with instances, but we have never seen the flow return regularly after removal unless the tubes and ovaries were diseased. When the uterus is removed by vaginal hysterectomy, there is no return of menstruation; when it does recur after removal, something must have been left behind. He had seen two cases in his own practice, where, after removal of diseased ovaries and tubes, menstruation did not cease, but profuse hemorrhages occurred; he had found enlargement of the uterus, which he ascribed to a fibroid tumor. One of these cases had been operated on by Dr. Noeggerath, and later the speaker had removed what was left of the tubes: but the patient returned to him with the uterus enlarged to the size of two fists; a third operation was declined. Where hemorrhage recurs, the uterus is generally enlarged, probably from fibroid. The second case was that of a woman, who stated that both ovaries had been removed for cystic tumors, and this patient had uterine hemorrhages; there was nodular enlargement of the uterus. In all these cases the ovaries were markedly diseased. This is a fact which had not been pointed out before, and he did not think that any one could recall the regular recurrence of menstruation after removal of normal ovaries. The periods will also return if all of the ovary or of the tube has not been removed at the operation.

DR. TUTTLE reiterated his belief that the ovaries and tubes had been entirely removed in the case he had reported: there were no adhesions, and the organs had been readily brought into the wound. The patient had menstruated regularly for more than a year every twenty-eight days, as she did prior to the growth of these tumors. The case was to him a very instructive one.

DR. COE referred to some similar cases reported in Germany, as instances of metrostaxis, and it was considered that this hemorrhage from the uterus was the expression of pelvic congestion due to the adhesions. Czempin had written an instructive paper on this subject, and Saenger had called attention to the fact as having been noted in cases of salpingo-oöphorectomy where the uterus was subsequently removed. The theory of recurring pelvic congestion would explain this metrostaxis without the assumption of supplementary ovaries or tubes.

DR. MUNDÉ said that the number of such cases amounted to only three per cent.

DR. LEE believed that every gynecologist had seen cases of menstruation after removal of the appendages. He had at present under his care a patient whose ovaries and tubes he had removed for simple neuralgia three years ago; they were completely removed, and this woman, sent to him by Dr. William H. Beardsley, still menstruated regularly. She had no malposition of the uterus, nothing to account for the fact; but she menstruated with as much pain as before the removal of the appendages. Another case, whose appendages he removed two or three years ago in the Woman's Hospital for chronic salpingitis, had no displacement of the uterus, but menstruated regularly. The uterus was small, and could readily be sounded.

THE PRESIDENT said that Dr. Tuttle's case of persistent menstruation was very instructive, in that there were no adhesions which would allow of the explanation referred to by Dr. Coe. In regard to tubal pregnancy, he believed that within the next ten or fifteen years we would be able to diagnosticate the condition uniformly, and that we would take greater account of the attacks of acute pain which indicated threatening rupture. He believed electricity should be used in the first few weeks as very much safer than laparotomy, especially in the hands of the general practitioner. All patients could not be transferred to New York or to other cities to be operated upon.

DR. JANVRIN said that, in reference to tubal pregnancy, he had for some years taken the same stand that Dr. Tuttle now takes. He fully believed that this case of Dr. Tuttle's commenced as a tubal pregnancy; the attacks of peritonitis, brought on by slight bleeding from the distended tube, with the other symptoms, made it clear that it was a tubal pregnancy, and he would have expected to find it. We all know that where considerable rupture has occurred the operation is certainly justified. The only point about which we need enlightenment is this, the ability to diagnose cases before serious rupture has taken place. A number of cases were on record which had been treated by electricity, and the fetus killed, and yet they did not terminate happily. He instanced a personal case, which was recorded in the Transactions of the American Gynecological Society. In all these cases, from the sixth to the twelfth week of gestation, the pretty severe attacks of colicky pain, with the other general symptoms, should lead us all to diagnosticate the condition, and when we were fully con-

vinced that there is tubal pregnancy, even if there has been no decided hemorrhage, and the patient's life is in no immediate danger, it is best to perform laparotomy. He did not believe in electricity at that time. There were cases on record where, after the fetus had been killed, it had given rise to trouble; but if the fetus was removed, nothing of that kind need be feared. It was as easy to operate in case of a tubal pregnancy as in case of pyo- or hydro-salpinx.

#### DIAGNOSTIC ASPIRATION OF AN OVARIAN CYST.

DR. P. F. MUNDÉ presented a specimen of an ovarian cyst for the purpose of illustrating the value of diagnostic aspiration in a case where there were no particular symptoms. The patient had been in the hospital for indistinct symptoms; she had been first in the medical service, and was subsequently transferred to the gynecological ward. He had recognized a cyst the size of a large fetal head. The patient having no pains, and feeling comparatively well, he was in doubt about it, and thought it wise to aspirate by the vagina; he withdrew a bloody fluid, which the microscope showed to contain Drysdale's cell and blood-corpuscles. He advised and performed immediate operation, and it was none too early, for there was a double torsion of the pedicle, the left ovary being diseased and turned over to the right side. The tumor was completely adherent and of dark color; the adhesions were fresh and easily separated. The drainage tube was used for two days, but was really unnecessary, as there was no oozing. The patient made a good recovery. Altogether he used the drainage tube as little as possible, but had the cavity well washed out. Where he is in doubt he used drainage.

#### DERMOID CYST.

Dr. Mundé presented another specimen with the following history: The case was referred to him with the diagnosis of extra-uterine pregnancy; she had been pregnant before; had given birth to one child; had recently missed two periods, and had irregular losses of blood, but no escape of membranes. The uterus had been sounded, it was not enlarged and was empty. On examination, he found a fluctuating cyst, the size of two fists, by the side of the uterus, concurred in the probable diagnosis of extra-uterine pregnancy, and advised early operation. The patient had hardly any pain to speak of. In this case he did not puncture because he intended to remove the tumor, and also to see whether his diagnosis was correct. At the operation the cyst proved to be dermoid. The patient made an uneventful recovery. He did not know why dermoid cysts and extra-uterine pregnancy should be so readily confounded in diagnosis.

DR. TUTTLE replied that in both dermoid cyst and extra-uterine pregnancy there was repeated, severe, peritonitic pain, and in both the tumor is rather firm in outline.

DR. MUNDÉ.—Dr. Tuttle is right; in dermoid cysts very fre-



quently pain is present, even when the cyst is small. Where irregular menstruation and the discharge of membrane are co-existent, the two conditions could not be differentiated.

#### SUBMUCOUS FIBROID.

THE PRESIDENT showed a small submucous fibroid tumor, about the size of a Mandarin orange, which had been removed from the uterus of a patient the same afternoon. The patient was Mrs. W., and she was number eight in the list of his own cases of pregnancy complicated with fibroid tumors of the uterus (see Transactions of this Society, AM. JOURN. OBSTET. for March, 1888, page 247). The patient was taken in labor at 5 A.M., and at 3 P.M., assisted by Dr. G. E. Abbott, she was safely delivered of an eight-pound live child. The several tumors, some subperitoneal, one large interstitial, and this small submucous one, did not prevent fair uterine contractions in the effort at expulsion of the child. But after the child was delivered, which was a breech presentation, no progress was made in the delivery of the placenta until electricity, and firm compression with the hands, had been used. Even then it seemed impossible for the placenta to be expelled, and the hand was introduced with some difficulty into the cavity of the uterus, when it was found that the placenta had been entirely detached from the uterus, but that it had been held above a large interstitial fibroid, located in the posterior wall of the body of the uterus near its lower border, and which, as the normal portions of the uterus had contracted, completely blocked up the uterine canal at its point of location.

The placenta, however, was drawn out by the hand in safety. On introducing the hand again for the purpose of being sure that all was right, as well as to satisfy his desire to learn the exact condition of the different fibroids, this small tumor here shown was discovered projecting into the cavity of the uterus, near the centre of the body, anteriorly. It was easily loosened from its small attachments, and quickly twisted off.

The large subperitoneal fibroid, which had laid just over the liver during the last month and which, early in September last, had been the seat of inflammation, was found to be attached to a portion of the abdominal wall in this locality.

There has been no excessive hemorrhage since the delivery of the child, but electricity has been applied with more or less regularity by my friend Dr. Geo. E. Abbott.

#### KELLY'S RUBBER BED-PAN AND PERINEAL CRUTCH.

DR. H. C. COE showed the above apparatus, which he had used with advantage. The "Beinhalter" was more portable than the ordinary perineal crutch, and was less likely to interfere with the movements of the operator or his assistants. The cushion had been fully described in the JOURNAL for October, 1887.

DR. C. C. LEE read the following paper entitled:



INVERSION OF THE NON-PARTURIENT UTERUS AND ITS TREATMENT,  
WITH NOTES OF TWO CASES.

The rarity of inversion of the womb in its unimpregnated or non-parturient condition, the difficulty of its diagnosis from polypi or other tumors, the gravity of the questions it presents for solution, and the extreme difficulty of its treatment, have seemed to me, Mr. President and gentlemen, sufficient ground for inviting your attention to this subject for a few moments this evening.

Within the past two years it has been my fortune to see and treat to their end two cases of this lesion, and I will first briefly narrate these as a basis or illustration of what I may have to say.

*Case I.*—Anna P., aged 42, consulted me on Oct. 31st, 1887. She had made a fatiguing journey from Albany, and was very nervous and feeble; and gave a somewhat confused history, of which the gist was as follows:

One month ago she had begun to flow profusely, which alarmed her but little as it was at her menstrual period, and she had long suffered from menorrhagia. For a week there was little abatement of the flow; then she consulted a neighboring physician who, after another week's effort to check the flow with astringents, insisted upon an examination. He now found a tumor (presumably a fibroid polypus) protruding into the vagina, which he caught with a forceps and attempted to remove. Much traction was made; and the pain and increased hemorrhage this excited so alarmed the patient that she insisted on a postponement of the operation. Once at home, she felt afraid to return; and, although the hemorrhage continued and the pain became even more severe, she did nothing. Another week elapsed, and at the end of this she mustered up courage enough to come to New York.

Nothing in this story seemed remarkable; but, in making a vaginal examination, I was not a little surprised and for a moment puzzled by the condition discovered. The vagina was quite filled with a soft doughy mass, which protruded slightly from the vulva and was covered with a sloughy mucus. It resembled nothing so much as a pyriform mucous polypus, but was softer and more easily indented than any I had ever seen. For a moment I thought it was certainly a polypus recently expelled from the womb, and undergoing the maceration or softening premonitory of sloughing. But as soon as I attempted to enter the cervical canal with sound or finger, I was undeceived. Here the reversal of the usual landmarks, and the impossibility of advancing because the cervical canal was turned inside out, showed that I was dealing with an inverted uterus. Abdominal palpation confirmed this, a distinct excavation being felt in the place of an ordinary fundus. At the patient's request, I sent her into the Woman's Hospital which she entered the same day, Oct. 31st. Here the following additional history was elicited: she had been married thirteen years, and twelve years ago had given birth to her only child after

a prolonged and instrumental labor. No further mishap then occurred than a lacerated cervix and perineum. For this she had previously entered the hospital in 1881 and had undergone tracheorrhaphy and perineorrhaphy.

Fairly good union was obtained; but, as she was leaving the hospital to return home, the cab in which she drove was upset and broken by a runaway horse, and she suffered a comminuted fracture of the forearm with serious contusions for which she was transferred to St. Luke's Hospital, and remained there three months. The exhaustion and nervous shock following this accident seriously affected her general health, and she has been timid and depressed ever since.

A fresh examination with Dr. Hanks' aid confirming the diagnosis of complete inversion; and the inflamed and sloughy state of the fundus precluding any immediate effort at reposition, the vagina was syringed with a hot solution of mercuric bichloride, the fundus was gently pressed up and supported by cotton tampons rolled in dry boracic acid powder, and the patient was kept in bed. This treatment was by my direction repeated daily for one week, a little trituated alum being added to the boracic acid and the tampons gradually increased; while the bladder was regularly emptied by catheter and the bowels kept relaxed. The patient was also kept upon her side. On November 6th the uterus was almost reduced.

For a fortnight longer the same treatment was continued, the tampons being carbolized and iodoform substituted for the alum and borax.

Nov. 23d menstruation began, and, during its progress, the blood could readily be seen emerging through a sinus at the back of the imperfectly reduced canal; in front of this was a dense indurated mass, like the base of a submucous or mural fibroma.

On December 1st ether was given; and, at my request, Dr. Hanks carefully dissected out the fibromatous mass which, as had been suspected, proved to be the base whence the former tumor had been partially torn and finally expelled; the uterine efforts resulting in inversion. The channel now opened was found to connect with the posterior sinus through which a sound could be passed into the uterine cavity. The deep excavation was closed with eleven silver sutures, and the outlines of the cervix were re-established. In a week the sutures were removed and good union obtained. The inversion was now completely overcome.

On December 15th, I decided to repeat the perineorrhaphy which had formerly been very imperfectly done; but, dreading the strain that vomiting from ether might inflict upon the flabby uterine tissue, I operated with cocaine. A single minim of a ten-per-cent solution of cocaine was injected hypodermically at three equidistant points down either side of the posterior vaginal wall, which is the plan I have uniformly found to answer best in plastic

operations on the vagina ; and, after waiting five minutes for its full effect, a sufficiently thorough perineorrhaphy was performed, the denudation being carried well up the posterior wall.

Much discomfort was experienced from the cocaine, the pulse running up to 160, with extreme dilatation of the pupils, a clammy sweat, etc. This, however, was but temporary and the patient made a slow but satisfactory recovery : in ten days the sutures were removed, and on January 23d she was discharged and returned home practically well. Within a week, I have received a letter from her family in Albany, saying she is now perfectly well, barring a little irregularity in her menstruation. There has been absolutely no recurrence of uterine prolapse or tendency to renewed inversion.

*Case II.*—In June, 1886, I was asked to go to Newark to see a patient dangerously ill, in consultation with two physicians whose names, for friendly reasons, I shall withhold. On my arrival, I found a multipara 38 years old, whose youngest child was twelve, and with no history of a subsequent pregnancy. For five years she had flooded irregularly ; for the last two so excessively as to be nearly exsanguinated. A week previously, in superintending some housework, she had been annoyed at the incompetency of her servants ; and in a fit of exasperation had lifted or pushed a heavy bedstead with all her strength. In this effort she suddenly felt a sensation of something tearing or giving way about the womb, which was followed by intense pain. The pain continued intermittently all that day and the following night, after which she sent for her physician. He made no local examination, although vesical and rectal tenesmus was very severe, but gave anodynes. The tenesmus continuing, he called in a consultant who found the vagina filled by a polypoid growth attached above to a large mass which he thought a second tumor.

He urged an extirpation with the *écraseur* which so alarmed the patient that an additional consultant was demanded, and I was suggested. When I reached the house, every preparation was made for immediate operation, and the foregoing history was obtained.

Vaginal examination at once revealed a moderate-sized polypus ; and, above this, a doughy mass which had been thought a second tumor, but was obviously the fundus uteri greatly relaxed and softened. The vagina was deep, and only persistent effort enabled me to demonstrate the inversion by the impossibility of passing either sound or finger into the uterine cavity. Complete absence of the fundus above the pubis confirmed this at once. The demonstration was clear to one of my colleagues ; the other seemed to feel it a personal affront, and taking his *écraseur* and other instruments, left the consultation in some dudgeon. At the attending physician's request, I removed the polypus which was easily cut away after ligating with catgut its short pedicle. This gave

more working room and enabled me with much more certainty to verify the diagnosis of inversion. As the uterus was exquisitely tender and the patient feeble, I thought it imprudent to attempt immediate reposition; and applying a firm astringent tampon, as in the first case, I asked this to be daily renewed, and in a week to be notified of the result. At this time the patient was said to be so much better that I urged a continuance of the treatment; and, in two weeks more, three from the beginning, we had the unexpected satisfaction of finding reduction complete and the uterus perfectly *in situ*.

For a full month the patient was kept in bed, and then sent with a well-fitting pessary to the seashore, where she spent the rest of the summer and completely recovered her strength. Since then I have lost sight of her.

In both of these cases the mechanism of inversion was evidently the same.

A feeble muscular system, a flabby uterus whose walls had, during the gradual progress of exsanguination and anemia, undergone perhaps some fatty degeneration, afford the most natural field for such a result when the womb is stimulated to the unwonted effort of expelling an irritant tumor.

Granting its existence, how are we to treat it? The environment is essentially different from that attending the inversion of parturition.

There a subinvolted uterus, large, massive, indurated about the cervix by strangulation of its blood supply, perhaps justifies all the violent plans suggested for its reposition.

Here the thin and softened walls are more prone to injury; resistance is less; the dragging weight of the expelled tumor once removed, the womb is inclined to right itself spontaneously; and, odd as it may seem, has done so in more than one recorded case.

To confound the two conditions seems to me irrational; and, before violent and far more dangerous measures are resorted to, I suggest to my hearers the simple plan of treatment I have found so successful. Of course, the tampon must be intelligently applied, firmly, and in the axis most easy to encourage reposition; it must be aseptic and as astringent as the parts will bear.

Furthermore, it must not be frequently tampered with or removed after it is securely placed, because its efficacy in promoting reposition depends more upon the muscular contraction due to continued pressure than upon violent pressure for shorter periods.

If properly prepared, it need never be changed oftener than once in forty-eight hours; and, when the carbolized pads are rolled in boracic acid powder, I have often seen them unchanged after seventy-two hours. Before each replacement, the vagina must be carefully washed out with weak bichloride or carbolic solutions, at as high a temperature as can be borne; and in whatever direction the fundus may point—should it all diverge from the axis of

the vagina—the tampon pressure must be applied directly in that line. I have found no instrument so effective in rapidly and accurately adjusting the pads, as this slender steel fork of my friend, Dr. Howard Kelly, of Philadelphia, which I now constantly use. (Instrument exhibited.)

As my paper is not statistical, I shall attempt no complete record of the cases of this form of uterine inversion to be found in medical literature. But I may briefly mention that, in the published records of this Society, two such cases have been contributed by Dr. Thomas: two by Dr. Watts, one by Dr. Harrison: besides others, possibly, that I may have overlooked. Dr. Harrison, the late Dr. Willard Parker of this city,<sup>1</sup> and, more recently, Prof. Werth, of Kiel,<sup>2</sup> amputated more or less of the uterus through mistaking the inverted fundus for a protruded tumor; but, happily, without fatal result in either case. Dr. R. P. Harris,<sup>3</sup> of Philadelphia, and Dr. J. C. Reeve,<sup>4</sup> of Dayton, Ohio, have contributed important papers on the subject, with many references to its literature.

Dr. Emmet<sup>5</sup> publishes an instructive case. Its extreme rarity may be inferred from the classical essay of Dr. Crosse,<sup>6</sup> of Norwich (Eng.), who out of 400 collected cases of inversion found only 50 due to polypi or other tumors; while he estimates that the more frequent form—puerperal inversion—occurred only once in 140,000 labors. Lusk says that there has been less than one case in 150,000 labors in Vienna, and one in 190,000 in Dublin.

DR. HARRISON.—I would like to correct a statement in Dr. Lee's interesting paper—the case he quotes in which I made a mistake I reported before this Society; the fundus was not inverted, but there was partial inversion of one horn. Lately I saw a case which reminded me of one of his. A colleague asked me to assist him in removing a polypus. On careful examination I found that there was inversion of the uterus, but was unable to reduce it. Meanwhile the patient went to the country; I have since learned that she was there operated upon, the inverted part being ablated. The patient recovered.

DR. MUNDE said he had seen six cases of inversion of the non-puerperal uterus. In the first place, he desired to claim for Scanzoni priority for the statement that a fibroid tumor at the fundus uteri was the frequent exciting cause of inversion of the uterus. The case on which it was based was the following: A uterine tumor of doubtful character presented in the vagina; a ligature was passed around it, and when the mass was cut off it proved to be the inverted uterus, and the woman died. The mistaken diagnosis was greatly deplored at the time, but from what

<sup>1</sup> Reeve, *Gyn. Trans.*, ix., 74.

<sup>2</sup> *Arch. für Gyn.*, Bd. xxii., p. 65.

<sup>3</sup> *Am. J. Med. Sci.*, Jan., 1880.

<sup>4</sup> *Op. cit.*

<sup>5</sup> *Gynecology*, 3d ed., 426.

<sup>6</sup> *Prov. Med. and Surg. Trans.*, 1847.



he had seen, it was not such a dreadful mistake after all. He recalled a case in which it was very doubtful whether it was one of inversion or polypus, and it turned out to be a case of both. It was very similar to that of Dr. Lee. The diagnosis was made by first enucleating the tumor at his (Dr. Mundé's) suggestion, and the inversion was then reduced: the patient recovered. Previous to that, he had seen a case at the Woman's Hospital, where Dr. Emmet was long in doubt; nobody could get the sound or finger into the uterus. Dr. Emmet felt so doubtful about it that, after laboring for half an hour or more, he decided to wait, on the ground that, after the manipulation the patient had been subjected to, the diagnosis would probably clear up itself. The following week the condition was unchanged, and the conclusion was reached that it was a polypus associated with inversion of the right horn of the uterus. Dr. Emmet cut down and enucleated the tumor, and then reduced the partial inversion. With Dr. Dawson he had seen another case of inversion without fibroid. At Mount Sinai Hospital he had had a case from Worcester, Mass.; under chloroform he could not feel any depression through the abdominal wall, but he felt sure it was inversion of the uterus. The patient came to the operating room and was placed under ether, which is much more relaxing than chloroform. Then, one hand being outside, he suddenly detected a little knob by the side of the uterus, and with the aid of a sound he diagnosed the tumor and partial inversion, removed the former, and then reduced the uterus. All these patients, except the first, recovered. Two years ago he saw a sixth case in consultation with Dr. Leonard Weber. The patient had suddenly felt something forced out: inversion of the uterus was diagnosticated. A large fibroid was present and the uterus was entirely inverted and lay outside of the vulva. He enucleated the tumor, reduced the uterus, and the patient made a good recovery. Tamponing is very good practice; anything that is safe ought to be certainly preferred. Rapid and forcible reposition of the uterus should not be continued long, but gradual reduction by tampon or pressure should be substituted.

DR. TUTTLE had seen but one case which was successfully reduced by stretching the abdominal ring; a large sessile fibroma was directly attached to the fundus. The inverted uterus presented a uniform pyriform tumor. The écraseur had been put around the tumor, when abdominal examination disclosed the true condition, and the tumor was enucleated. The woman finally refused to submit to further manipulation, and a tampon was employed. He also dwelt on the fact that continuous was more dangerous than intermittent pressure. He inquired what would be the proper method when reposition does not succeed. Dr. Thomas had proposed to make a linear abdominal incision and to stretch the ring. In a case of inversion of the puerperal uterus, which he had seen with Dr. Watts, the patient being thin, he had been able to effect reduction by stretching the ring through the abdominal walls. Other methods had been tested without avail.

DR. LEE, in closing the discussion, said, in reply to Dr. Tuttle, that he had wished to emphasize the difference between the parturient and the non-parturient uterus. In the former, the efforts proposed were correct. No amount of tamponing would accomplish much. Any forcible effort at reposition by hand or instru-



ments at the cornua of the uterus ought to be made with great gentleness in every case of inversion. If it fails to accomplish much, we might try instead two to three weeks of tamponing. In the cases he had seen, there was so much flaccidity and feebleness of tissue that they would have ruptured by ordinary means. The fact that rupture has happened in such instances shows that it is a danger which should be borne in mind. He would suggest for consideration in such cases the more gradual use of the tampon. The injurious influence of constant and prolonged pressure was a danger in his plan, but with reasonable care it could be avoided. In reply to Dr. Mundé, he said that some of the instances related by him do not seem to have been cases of inversion.

DR. MUNDÉ claimed that in every instance there was partial inversion.

DR. LEE thought he remembered some of the cases. He had no further comment to make, except that he would have done as Dr. Mundé did. He also remembered reading in the records of the Society Dr. Harrison's suggestion of a plan of treating inversion of the uterus which was safer than violent pressure.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

---

*Thursday, February 2d, 1888.*

THOS. M. DRYSDALE, M.D., *in the Chair.*

DR. B. F. BAER presented the specimen and read the report of a

### CASE OF NON-PAPILLARY INTRA-LIGAMENTOUS CYST:

with enucleation of the entire tumor in the right broad ligament, but of the lining membrane only of that in the left.

Sessile tumors, whether cystic or solid, are always more or less dreaded by the operator because of the greater difficulty and danger attending their removal, and also because, in the case of sessile cysts, the result as to the permanent relief of the patient is less certain than where the tumor has a pedicle. Clinically and pathologically, therefore, these cases are of great interest and importance.

Pain and hemorrhage are the important subjective symptoms. The former is usually present, sometimes in great severity; the latter is at times alarming, in the quantity of blood lost and in the frequency of its recurrence. This is not surprising when we consider the close relations which these tumors sustain to the uterus and to the other pelvic organs and tissues. The wedging and pressure which result from the growth of the tumor in the limited space produce great congestion of the blood-vessels from stasis.

The uterus becomes enlarged and softened in consequence, and metrorrhagia follows; but the hemorrhage is conservative, to a certain degree, in relieving the distended vessels, probably averting rupture of a vein in the broad ligament or in the tumor. The pain which results from the tension and stretching of the nerves involved is also relieved or modified by the depletion following a free hemorrhage from the womb. But the flow once started does not always remain within the conservative line; it sometimes becomes uncontrollable and results in acute and serious anemia.

According to Doran, sessile cysts which arise from the hilum of the ovary or from the Wolffian relics in the broad ligament are usually papillomatous; but that non-papillomatous sessile cysts infiltrating the broad ligament are not infrequently met with is shown by the following statement from that author: "In twenty-four cases, where I assisted at the operation, sessile cysts infiltrating the broad ligament were removed, more or less completely, but their origin could not be ascertained; none of these contained glandular growths, most were multilocular, but papillomatous growths did not exist" ("Tumors of the Ovary," etc., p. 68). Further, the ordinary pedunculated multilocular cyst of the ovary sometimes contains papillomatous growths—the result, possibly, of stray Wolffian relics. I have presented at least one such specimen to this Society, and I have seen others. On the other hand, the multilocular ovarian cyst without papillomatous material has been found, in rare instances, to have invaded the hilum and broad ligament in its growth. Doran records two such cases. He says: "I have seen two cases where a sessile cystic tumor of the ovary was removed, and this proved to be an undoubted case of glandular cystic disease invading the hilum and the broad ligament."

The case which I here report is probably another instance of this pathological anomaly.

Mrs. X. was sent to me by Dr. O. H. Adams, and entered my private hospital in April, 1887. She is 32 years of age, married, and has had three children, the last two (twins) eight years ago. Following her last labor, she had puerperal mania, which necessitated her confinement in an insane asylum during four months. Four years ago, she began to have attacks of sharp pain in the right ovarian region, radiating to the groin and down the anterior portion of the thigh. The pain was intermittent in character and cramp-like, lasting hours at a time, and was usually followed by a purulent, fetid discharge from the vagina, which would afford her great relief. At other times, the attack would end with a profuse metrorrhagia, which would leave her pale and weak, but free from pain. About two years before coming under my care, she first noticed a "lump" in the right groin, which has gradually increased in size. Some time after, she noticed a similar growth above the left groin. She was considerably emaciated and looked very ill.

Examination revealed a tumor, as large as a child's head, in the right iliac region, and a smaller one in the left ovarian region. The tumors seemed to be fixed in the pelvis, and to have a broad base of attachment; they were immovable below, but mobile above and semi-fluctuating. Vaginal examination showed them to be so deeply attached in the pelvis, and so intimately related to the uterus that I was unable to complete my diagnosis without anesthesia. The patient was, therefore, placed in bed, and ether administered, when it was found that the uterus was elevated by the tumor on the right side, with which it was connected. There was evident fluctuation, though the tumor was thick-walled and very firm, almost hard. The lower surface occupied the position of the broad ligament at the side of the uterus. The same condition existed at the left side, but to a less degree. I diagnosticated sessile cystic disease of both ovaries or broad ligaments, and advised immediate operation, to which the patient gladly consented.

On April 13th, 1887, I proceeded to operate, being kindly assisted by my friend, Dr. Daniel Longaker. When the tumors were exposed, they were found to be so closely connected with the womb that they seemed to be one with that organ, which rested as a wedge between them. The Fallopian tubes extended outward over the upper surface of the tumors, while the broad ligaments and the greatly distended veins of the pampiniform plexuses were expanded so as to apparently envelop them, the whole presenting a dark, purple appearance which was not at all reassuring. After separating some slight adhesions on the posterior aspect of the larger tumor, and rolling it forward, the nacreous surface common to the multilocular ovarian cyst was exposed to view. Selecting a spot on this free surface, because it was less vascular, I now plunged a trocar into it, when about two pints of a tarry looking fluid drained away. A more thorough investigation, which the diminished size of the tumor now afforded, showed it to be adherent to the cecum also. Previous to beginning the enucleation, I passed a long, blunt needle, charged with a double ligature, through the expanded broad ligament, at its least vascular portion between the uterus and the tumor, and as far below the Fallopian tube as could be done with safety. One side of the ligature was then drawn up and tied close to the uterus, including within its grasp the tube and vessels. Thus insured against hemorrhage from that source, I now cut through as far as the ligation extended, and continued the enucleation down to the base of the tumor, and then outwards, finally separating it from the head of the colon. There was some bleeding from the numerous veins which were broken, but this was readily controlled by catch-forceps and ligatures.

Attention was now given to the tumor on the left side. This was found to be deeply imbedded in the pelvis and firmly fixed to the uterus, Fallopian tube, descending colon, and rectum. The

upper surface was covered with a network of distended veins, some of them as large as a quill. Enucleation of this tumor seemed too hazardous, and hysterectomy was out of the question, for, to do the latter, the tumor must first be dissected from the colon and the pelvic floor, which was not practicable. I determined, therefore, to evacuate the contents of the cyst by aspiration and then to shell out the lining membrane, or, failing in this, to insert a drainage tube into it. But, while endeavoring to find a position for puncture, my finger passed into the tumor low down on the posterior border of the broad ligament. Instantly the parts were flooded with a tar-like, semi-fluid substance similar to that which had been evacuated from the cyst on the right side. This was removed, as quickly as possible, by sponging. I then passed my finger through the opening which I had thus accidentally made, and, after a careful and gentle dissection, succeeded in removing the entire secreting surface of the cyst. Blood was now flowing from the small valvular opening in the broad ligament, but, as it was apparently venous, I hoped to check it by compressing the now flaccid folds of the broad ligament: for this purpose, several large sponges were inserted and external pressure made upon them while the abdominal sutures were being placed. The sponges were then removed. There was still a slight flow of blood, but, as it was doubtless only a venous oozing, I concluded to close the wound, and trust to pressure and the drainage tube. The patient was placed in bed and the tube carefully watched. During the next two or three hours, several teaspoonfuls of quite bloody serum passed through it: after forty-eight hours the tube was removed.

This patient made a slow, but good recovery, and went home six weeks after the operation. She has been entirely relieved of her former sufferings, and the loss of weight and strength has been regained.

DR. WM. GOODELL reported

#### A CASE OF SPLENECTOMY.

Mrs. R., age 40, had chills and fever in early life, but after her marriage, eighteen years ago, she removed to a healthy country town and had no return of the disease. She has had two children, the youngest seven years ago. At this labor, she had a serious flooding and was confined to her bed for six months from excessive prostration. Since that time, she has never been well, being weak and miserable. Her monthly periods were always free and generally painful. Last March she had a very severe attack of what her physicians called malarial fever, and her life was threatened by repeated attacks of hematemesis and hemoptysis. A sore tumor was now discovered, which was pronounced to be a uterine fibroid, and she was sent to Dr. Goodell. He found the womb pushed low down and retroverted by a solid tumor, which started

from the region of the right ovary and ran diagonally towards the splenic region. It entered the pelvis so low down as to cause bulging of the anterior wall of the vagina. The womb seemed to be independent of the tumor, for the former could be moved about freely with the sound. Yet when the tumor was pushed upwards, it conveyed motion to the womb, drawing it also upwards. The tumor was never free from pain, and the complexion of the woman was markedly cachectic. The diagnosis was made, sarcoma either of the right ovary or of the omentum.

At the operation, a very long incision was needed, reaching not quite up to the ensiform cartilage. The tumor was of a dark purple color and was attached in every direction by very long, tortuous and wholly denuded vessels, which looked like the largest earth worms, and were of analogous length. Most of the vessels came from the omentum, which had disappeared apparently by being incorporated with the tumor, and by having its connective tissue and fat removed by absorption, leaving the blood-vessels bare. These vessels were either single or else grouped in large bundles, and had all to be ligated. By them the tumor had evidently been nourished, for what looked like a pedicle was slender, long, and twisted. It was lost in such a mass of livid veins that Dr. Goodell did not dare follow it up to its source. His diagnosis had been sarcoma of the omentum, but he was so uncertain of it that he sent the specimen to Dr. Formad, who pronounced it a leukemic spleen. It weighed not quite six pounds. The woman did well for four days, then symptoms of embolism set in, the sputa became streaked with blood, and she died on the sixth day. So far as he can learn from the literature on the subject, his case made the eighteenth in which a leukemic spleen had been extirpated, and all had died save one.

DR. HARRIS said that the case of recovery after operation for removal of a leukemic spleen, spoken of by Dr. Goodell, had occurred under Dr. Franzolini, of Undine, in Northeastern Italy. The proportion of leucocytes was small, which probably accounted for the recovery of the patient. The diagnosis had been made before the operation.

DR. PARISH had a few years ago seen a case of the late Dr. Wallace in which a diagnosis of fibroid of the uterus had been made. A tumor the size of the two fists was found near the side of the uterus. The patient developed peritonitis and was tapped by the assistant physician. Some dark fluid was withdrawn. Death took place a few months after, the peritonitis having been cured. At the autopsy, the spleen was found adherent to the uterus and to the pelvic brim.

DR. GOODELL called attention to the hemoptysis and hematemesis in his case, which were the usual symptoms of a leukemic spleen; but he had not been informed of them until after the operation had been performed, and, therefore, he did not have that clue towards forming a diagnosis.



DR. GOODELL also exhibited

TWO DERMOID CYSTS

which he had on that day removed from a young girl aged sixteen years. He had brought the specimens down because the largest one contained daughter-cysts, or at least round bodies resembling them; yet he had hitherto found that all dermoid cysts which he had removed were single-chambered and did not contain smaller cysts.

DR. HAMILL exhibited a

UTERUS REMOVED FROM A WOMAN IN THE LAST MONTHS OF PREGNANCY.

The opportunity is not often afforded to examine the uterus at an advanced period of pregnancy, and as this particular specimen presents several well-marked and interesting features, I felt that it would be of interest to place it before the Society. The uterus was removed about twenty-four hours after death: inasmuch as I was present at that time, I wished to do so immediately, but could not secure the consent of the family. I shall very briefly call attention to the several conditions noticed. The outer surface of the uterus is studded in many places with syphilitic nodes. The woman had contracted syphilis early in her married life and manifested other marked symptoms of the disease. There is also a small cyst of the broad ligament. The specimen presents quite markedly the contraction-ring or ring of Bandl. I give both designations advisedly, inasmuch as it is not definitely determined whether this ring represents the internal os, as Bandl claims, or whether it makes the boundary between the upper and lower uterine segment, as Schroeder believed. According to the investigation of McDonald, Müller, Sänger, and Lusk, this condition does not always exist. In three autopsies made by Lusk, he failed to find any trace of Bandl's ring. Schroeder in a frozen specimen found this ring very distinctly, but claimed that it was the dividing line between the upper and the lower uterine segment. Bandl holds the contraction-ring of Schroeder to be the true internal os and, consequently, one would expect to find below this ring cervical mucous membrane, whereas the portion between Bandl's and Müller's ring is covered by decidua. Bandl explains this by his three hypotheses: 1. The deciduous membrane is crowded down into the cervix by the weight of the presenting part. 2. In primiparæ, the advancing head strips off the mucous membrane, which is replaced by decidua. 3. That the cervical mucous membrane is transformed into decidual membrane during pregnancy.

Another interesting feature that the specimen demonstrates beautifully is that condition pointed out by Leopold and Lusk, as seen in their Cesarean section, viz., the delicate filamentous bands



running from the chorion to the decidua, which are the atrophied villi of the chorion. The attachment of the placenta is to the posterior wall of the uterus.

DR. HIRST had seen the frozen section made by Schroeder in 1884 and it was most interesting, showing distinctly the so-called ring of Bandl. He did not believe in any one of Bandl's three hypotheses to account for decidual membrane in a place where, according to Bandl's theory, cervical mucous membrane should be found. The extraordinary diversity in the explanation advanced by Bandl shows plainly enough the insufficient ground upon which his theory rests.

DR. M. PRICE firmly believed in hunting for anatomical facts upon the living subject. He had looked for Bandl's ring and had never been able to find that it existed. He is fond of turning in badly presenting children and has had his hand in the uterus many times. He has had it so compressed that it was useless for some moments; the compression was always uniform and from all directions. He has yet to find any constriction in the region of the so-called Bandl's ring alone. He has in several cases observed hour-glass contraction, but this was due to continual pressure on one side of the uterus and consequent loss of contractility of that portion. He does not believe that hour-glass contraction ever occurs in uncomplicated labor.

DR. PARISH remarked that, in a Cesarean section performed by Dr. Foster, of Maine, the operator had observed a circular contraction. This went to prove that such a thing could occur. In two cases of Cesarean section performed by himself, no such contraction had existed; and likewise there was no such circular contraction in a third case operated on by Dr. Allis and himself.

DR. GITHENS stated that in discussions before the Society in October and December, 1879, and in October, 1880, upon the subject of "Hour-glass Contractions of the Uterus," Dr. Albert H. Smith, Dr. R. G. Curtin, and Dr. W. H. Parish had reported instances of prolonged and forcible contraction of a ring of muscular fibre in the uterus, above the internal os, the lower and upper segments of the uterus remaining flaccid. In Dr. Curtin's case, Cesarean section was being performed. The uterus had not been emptied of its contents and the ring of contraction was seen as well as felt. In the other cases, a placenta or a twin-fetus was retained in the upper segment of the uterus. May not this ring of muscular fibres, so contracting, be identical with that described by Bandl? In the case reported by A. H. Smith, the condition lasted for two hours and was relieved by hot water intra-uterine injections. The doctor reported the point of contraction as being at the internal os, but as he was opposed to the idea of there being any such thing as a contracting-ring higher up, we may make some allowance and consider that it occupied a position near that described by Bandl as the location of the contraction-band.

DR. R. STEWART had seen a case in which, after the child was removed, the patient began to show signs of internal hemorrhage. The uterus was examined and found to be much distended. An attempt was made to pass the hand in, but it was done only with difficulty, as there was a powerful contraction in the lower segment. The body was found distended and very flaccid, and filled with blood. He thought that this case proved that a contraction could occur in the lower segment.

DR. HIRST quite agreed with Dr. Price in thinking that these cases always arose from pressure. He had seen good examples of Schroeder's contraction-ring in which the ring marked the dividing line between the upper and lower segments of the uterus, and was not at all due, as might be inferred from some of the preceding remarks, to contraction of the circular muscular fibres, but was merely the sharply defined boundary between the upper, thicker, and more muscular portion of the uterus and the lower thinner, more fibrous portion above the true internal os.

DR. HAMILL observed that the patient had formerly suffered from Graves' disease, but had no active symptoms at the time of death. She had died of heart failure.

DR. HAMILL presented also

#### A FOUR WEEKS' OVUM

entire with the decidua. He presented this specimen for a two-fold reason: 1st, on account of its comparative rarity, and 2d, to elicit from the members of the Society their views on the after-treatment of abortion. The decidua vera is not, as a rule, expelled with the ovum. Dürnsen says, "from a personal experience with more than one hundred and fifty cases of abortion in the service of the Charité of Berlin," that "the retention of portions of the decidua vera is not the exception, but the rule," and Tarnier says "that, ordinarily, the uterine decidua remains adherent to the uterus." Whether it is safer to leave this in the uterus and allow nature to throw it off or to remove it at once is the particular point I should like to hear the members discuss. For my own part, I feel sure that it should be immediately removed. As to the manner, I shall say nothing.

DR. HIRST said that, when the decidua vera is retained, as is the rule in early abortions, one of two things happened: the mass either putrefied and thus became a source of septic infection, or it became greatly thickened, and remained as a foreign body, exciting frequent hemorrhage or constant leucorrhœa. He always cleaned away any debris left in the uterus after abortion.

DR. GOODELL agreed fully with Dr. Hirst as to the propriety of removing the retained fragments of the placenta or the membranes; but he had a word to say about the manner of their removal. He deemed the much vaunted curette, whether sharp or blunt, a very inferior instrument, especially so whenever the fragments had been retained for several weeks. Not only did the curette bruise and injure the unimplicated portion of the womb, but it tended to glide over the fragment, merely scraping its surface. Sometimes, indeed, it would hook up one end of the fragment, and, after causing a great and needless flow of blood, would slip off. So often had he been disappointed with it, nay, even alarmed by the great loss of blood, that he now used either a small fenestrated polypus forceps when the os was dilated enough to admit it or a slender handled catch-forceps. With these instruments, the fragment was invariably seized and removed by a twisting movement, while the womb itself sustained no injury whatever. It was, in fact, safer to use these instruments in the womb than to catch a stone in the bladder with the lithotrite.

DR. PARISH had seen a number of mistakes made with the curette. He had been called to a case and found a woman who had been bleeding for four or five months. Her former attendant had curetted her and pronounced the womb empty. He and his colleague dilated and removed a body as large as his two fingers. In another case, the uterus was curetted by the attending physician and pronounced empty. Within twenty-four hours the patient aborted. These cases will illustrate how one may be deceived as to whether the uterus is empty when relying on the curette. In his own practice, after the third month, if there is retention, he introduces his finger and delivers everything. He thinks, with Dr. Goodell, that something more reliable than the curette must be used to enable one to say that the uterus is empty after abortions in doubtful cases.

DR. LONGAKER does not interfere at all before the third month, unless the patient has decided signs of retention, such as hemorrhage, patulous os, etc., otherwise it is, as a rule, safe to conclude that everything has come away. During the third, fourth, and fifth months, retention is very frequent. He thought it surprising what a small portion of placenta would give serious trouble: even small shreds will keep up a very serious hemorrhage. He always removes anything which has been retained and uses the finger, and very frequently anesthetizes the patient.

DR. R. STEWART asked the members of the Society in what proportion of cases they had to interfere. He has never used the curette for this purpose, and has never failed to remove with forceps of proper size. The hemorrhage generally ceases in from twelve to fifteen hours; if not, he investigates and usually finds some debris left behind, but is convinced that, if there has been no improper interference at the time of the abortion, such cases are exceedingly rare. He agrees with Dr. Longaker as to the amount of trouble kept up by small pieces of membrane, etc.

DR. HAMILL also presented

#### A FETUS SHOWING INTRA-UTERINE RACHITIS.

This specimen presents a number of anomalies; probably the one most rare is the condition of intra-uterine rachitis; you will note the rachitic condition of both femurs. So far as I am able to find, fifty-three cases have been collected by Schorlan and Graefe. This condition of the bones in rachitis may be simulated by the arrest of bony development in those cases of fetal cretinism occasionally met with in Europe. The absence of the three fingers and corresponding metacarpal bones would, following the classification of Geoffroy St. Hilaire, place this among the Hemiteratic class, and the subdivision of that class known as Anomalies by Numerical Diminution. This form of monstrosity is not met with very frequently. The absence of the fibulæ render the specimen still more rare.

#### INTESTINAL OBSTRUCTION.

DR. J. PRICE exhibited a piece of the large intestine which had been removed that day by Dr. Chas. B. Penrose. The patient, a woman, had not had a passage of the bowels for twenty-eight

days. There was enormous distention. The constriction was easily found on the right side of uterus and posterior. The intestine was punctured and a gallon or more of feces removed. The gut was then resected, a piece twelve inches long being removed. The two ends of the gut were then united in half their circumference and the other half stitched to the abdominal opening, making an artificial anus. Dr. Agnew had seen the case and had recommended immediate operation. The woman was a patient of Dr. Bernardy's. She is now doing well. He believed that Mr. Tait had first advised the preliminary puncture to relieve the distention in conditions that cannot be dealt with by resection. He had some letters from Dr. McMurtry, of Danville, Ky., who had been called forty-eight miles into the country to see a physician twenty-six years old. On opening the abdomen, he found two perforating ulcers of the cecum with local peritonitis. He had trimmed the edges of the ulcers and closed with Lembert sutures: irrigation and drainage. On the fourth day, pulse 92, temperature 99, and patient had complete evacuation of bowels.

Dr. Price also exhibited a

#### PELVIC-BOUND FIBROID.

Woman 37 years. Small. Tumor on anterior face of pelvis, bound fibroid could almost be picked up through the abdominal walls. The right tube contained blood and the ovary was bound down by adhesions. The right tube and ovary were then tied off, but the left tube and ovary were so imbedded in a mass of large venous sinuses that it would have been dangerous to have interfered with the ovary. The tube was removed. A clamp was passed around the tumor, which had been lifted out of the abdomen, and the mass was removed. The clamp came off on the seventeenth day. Temperature never rose to 100°, pulse above 65. In connection with this case, he remarked that tubal and ovarian troubles, complicating fibroids, were very common. Dr. Keith had found the tubes diseased in about all of his first thirty-eight cases of hysterectomy. In nine cases he had attempted to remove them, but had failed and finished by hysterectomy. He was surprised to find Dr. Keith condemning the operation and thought that his statistics explained the matter. His mortality in private practice was less than four per cent, and in public practice more than fifteen per cent.

Dr. Price further exhibited the drainage tubes used by Dr. Bantock, of London, as well as a tube for continuous irrigation which Dr. C. B. Penrose had just handed him. He also showed Tait's modifications of Koeberlé's wire clamp and the Delta metal wires now used by Dr. Bantock.

DR. HIRST exhibited

#### THE INCUBATOR

in use at the Maternity Hospital. It is a simplified Crédé's incubator, a double walled bath-tub made of copper; hot water is

poured into the space between the walls and a temperature maintained within the tub of nearly 100° Fahr.

Also the

#### SYSTEM OF GAVAGE

in use at the same hospital; it consists in forcing into the child's stomach through a soft-rubber catheter, by means of a small glass syringe, about one and a half drachms of human milk every hour. A table, showing the daily weight of a premature infant born at the twenty-first day, and treated by this method, was presented: the child weighed at first 1,080 grammes; at the end of the first month the weight was 1,460 grammes. Tarnier instead of a syringe uses a glass funnel in this treatment.

Also

#### AN INSTRUMENT

for measuring the obliquity of the female pelvis. It was a simplification of Verrier's instrument, a picture of which may be seen in Witkowski's "*History of Obstetrics*." He related the history of a difficult breech extraction, the difficulty being solely owing to an abnormal inclination of the pelvis; the plane of the superior strait was almost vertical as the woman stood erect.

He further exhibited a specimen from a case of

#### POST-NATAL PNEUMONIA

which contrasted well with the case of pre-natal pneumonia exhibited at a former meeting. The pneumonia in this case was caused by the inspiration of blood, liquor amnii, and mucus during labor, which was a very tedious one. The pneumonic consolidation could be found in spots about the size of a chestnut throughout both lungs. The child developed fever, temperature 103°! directly after birth, and died on the third day.

He finally presented

#### A DOUBLE MONSTROSITY,

two immature fetuses, about the third month, intimately joined by a complete fusion of the anterior abdominal walls. There appeared to be no bony junction whatever. Both fetuses were male. There was a common umbilical cord given off from a flap of skin stretched between the most dependent portion of the abdomens.

DR. B. F. BAER presented

#### SPECIMENS OF INFLAMMATORY TUBAL TROUBLE.

The first was from a woman 24 years old, who had had severe hemorrhages for two years past, and was reduced to an almost bloodless condition. She was treated for three months in a hospital by the usual methods with no relief. The operation proved the diagnosis. Both ovaries were removed. The fimbriated extremities of the tubes were lost in the ovaries. She made a good recovery, and he thought the cure permanent.



The second case was that of a woman 29 years old. She was confined to bed with a pelvic peritonitis and a bad hemorrhage. She had had recurrent attacks of this kind and had almost lost her life thereby. A tampon controlled the hemorrhage for a time, but when it was removed the bleeding returned. During the operation, he was compelled to catch the ovaries with a pair of small forceps in order to tear them away from their adhesions. The left ovary contained a small fibroid which had been the seat of much pain between menstrual periods. There was no pus in the tubes. He had never seen pus in the tubes in any of his cases. They were simply thickened and adherent. He did not think that pus was ever contained primarily in the tubes.

DR. DEEVER then showed some

#### PUS TUBES.

In the first one, on rectal examination a tumor could be felt, but he was uncertain whether it was in the rectal walls or in the abdominal cavity. By vaginal examination he discovered a prolapsed ovary. He found on operation that the right ovary was displaced and adherent to the pelvic floor. The left ovary was adherent to the rectum. The patient had been discharging purulent matter from the rectum. She was undoubtedly syphilitic, which he thought accounted for the discharge which still kept up. She had been a sufferer for two years or more. She had been treated by several physicians for stricture of the rectum. After the passage of bougies pus and blood would ooze from the rectum; finally the bougies caused so much pain that they had to be dispensed with.

The second case was a young female. She had been seen by an eminent physician and he had pronounced the trouble an old cellulitis which had not yet undergone resolution. She had recently had another attack, the pain was decidedly that of suppuration. Vaginal examination revealed a mass which fluctuated very slightly. On opening the abdomen, the right ovary was found to contain a good-sized cyst, the tube contained pus, and there was besides a blood cyst. On the left side there was a cyst of the broad ligament and a large pus tube. Both cyst and tube were ruptured in removal. Two drainage tubes were inserted. Temperature reached 101°, stitches are not yet out. Tubes out in fifty-two hours. The tubes were kept dry and clean with a cotton rope; no discharge after removal of tubes. One point I wish to make is that pelvic surgery is very delicate work—there is great danger from the nearness of the great vessels and ureters as well as the bowels. There is great danger of tearing the bowels in separating adhesions.

DR. PARISH had had an operation ten days ago; great emaciation; in bed six weeks; high temperature, of phthisical family; married ten months. Prior to taking to bed had had tubal trouble; physician recognized mass appearing above pelvis.



When he saw her the tumor rose above the umbilicus; difficult micturition and defecation. He made a median incision so as to explore the pelvis; he passed his finger into the pelvis, but could not make out the exact condition. The tumor, as well as he could make out, was an abscess, but there was no fluctuation. He then made another incision above Poupart's ligament, and opened and drained the abscess, not opening from it into the peritoneal cavity. He now enlarged the median incision, and found the uterus involved in the mass. He believed that pyosalpinx was the original cause, for on the other side there was a large pus tube and ovary, but without adhesions. Pus escaped from the tube in removing. Deep in the pelvis to the right of and behind the uterus was a tumor as big as two fists; walls very thin; no connection with the ovary, tube, or parovarium. He introduced a trocar and emptied the sac of a pint of clear, spring-like fluid, the cyst collapsed, and could not afterwards be found. Drainage tube was put in: patient has done well; pulse and temperature soon becoming and remaining normal. Pus usually does not exist primarily in the tubes, he believed, but the infection commenced in the uterus and extended to the tube, which then had both ends sealed, and thus formed a pus sac. Abscess of the ovary, he thought, was usually secondary to the pus in the tube.

DR. J. PRICE said that the statement had been made at the last meeting that pelvic surgery in pus cases was child's play in comparison to surgery of broad ligament cysts. He would reverse that statement. In regard to Dr. Baer's not finding pus in the tubes, he would say that Dr. Gross had reported a case where a pint or more of pus was found in a tube. Pus did, beyond doubt, exist in tubes. He had had a number of cases where the pus had poured out through the uterus while removing them. Dr. Deaver's cases were exceedingly interesting on account of the mixed character of the lesions, pus tubes, small ovarian, and broad ligament cysts coexisting. The cyst which had collapsed in Dr. Parish's case in the tapping, he believed, was one of the broad-ligament kind, just such cases as Keith tapped and said, never returned, but always got well. Dr. Deaver's case, treated for stricture, had no stricture excepting that caused by pressure of the diseased appendages and inflammatory bands constricting the bowels. The cases Dr. Baer reported are cases of caseous degeneration, and do not often contain pus. If Dr. Baer continued to do pelvic surgery, he would soon come across some pure pus cases, and would probably find them sufficiently charged with pure pus to deluge the peritoneal cavity.

DR. BAER did not believe that pus existed in the tubes primarily, but that it always started in the pelvic connective tissue, and had been formerly called pelvic abscess, which term seemed now to have died out of existence. The tubes exhibited by Dr. Deaver did not now contain pus. He was still of the opinion that surgery of broad ligament cysts was much more difficult than the removal of pus tubes.

DR. DEAVER said that the tubes which he exhibited did most unmistakably contain laudable pus, but that it had been discharged by the handling. He did not see how pus in the broad ligament could get into the uterus without ulcerating through either the uterus or the tube. His was undoubtedly an abscess of the tube, pure and simple. As to the difficulty of surgery of broad ligament cysts and pus tubes, he considered that of the tubes the

most difficult. In the broad ligament cysts you had almost all your anatomical points defined, and there was, as a rule, no inflammatory complication. In dealing with the Fallopian tubes on the other hand, owing to their displacement, and the adhesions bringing them to the pelvic floor or perhaps adherent to the ureters, vaginal hemorrhoidal plexus of veins, the intestines and bladder, we may encounter some of the most difficult cases in surgery.

## TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

---

*Stated Meeting, November 18th, 1887.*

DR. S. C. BUSEY, *President, in the Chair.*

DR. J. FORD THOMPSON read a paper on

### UTERINE CANCER.<sup>1</sup>

THE PRESIDENT requested Dr. Jos. Taber Johnson to open the discussion.

DR. JOHNSON certainly differs with Dr. Thompson as to the value of his paper, which he considers one of the most important of those presented to the Society. He agrees with him in the local origin of cancer and in our ability to cope with it before it has implicated the neighboring glands. He believes that the so-called cures of cancers by their removal by caustics and scrapers are not of cancerous, but benign growths. Enmet has made about the same statement. The case reported this evening got well. If she had died, we would have thought it would have been better to have performed total extirpation. The time of the operation was somewhat long, over an hour. Martin performs total extirpation in about twenty minutes. Caustics and minor operations do little good and only prolong the patient's suffering. The operation should be performed early, to be successful. Cancer is not very successfully managed by the general practitioner. He sees the patient first, fails to make a diagnosis, and discharges her; or, if his diagnosis is made, he will try tentative measures, until the disease has progressed so far that any permanent benefit later on is very doubtful. His experience emphasizes the importance of early diagnosis and treatment. He could, at this time, recall four cases in which the attending physicians did not attribute enough importance to the manifestations. In these cases, he had actually made the first examinations, but the disease had progressed so far that it was impossible to remove it all. The point is to operate as soon as the diagnosis is made. There is no hope unless through an operation; and delay is only a waste of time as to results. Operations are easier and more successful if performed early. If there

<sup>1</sup> See original articles in this number.

is much involvement of the surrounding tissues, there is no use of an operation. In one of Martin's cases, the uterus was very large and contained a degenerated fibroid in its cavity. He would go further than Dr. Thompson and say that the safer plan is to practise total extirpation in all cases, as soon as a certain diagnosis has been made. It is not always easy to tell the line of demarcation between healthy and cancerous tissues. It is sometimes impossible to tell when we have gone far enough. Martin says his experience in twenty-eight cases of high excision shows that six died under the influence of the operation; but all of the survivors relapsed in a short time, and only a few lived to the end of the second year. Martin saved more by total extirpation and is against dallying with the high excision.

Total extirpation is the operation, because: 1st, it is the surest way of removing the disease; 2d, it is less likely to recur; 3d, if it does return, it is less painful and disgusting, and death is easier. The history of these cases, when left to themselves, is too well known. If the disease does return after an operation, the patient has had some relief.

Martin reports 311 cases, with only 47 deaths, or 15.1 per cent; Küster, in 1883, reported 778 cases of amputation of the cancerous breast, with a mortality of 15.6 per cent; Post collects 722 operations, of which 170 died and 552 recovered—a total mortality of 24 per cent; Dudley reported 51 operations in the United States, of which 29 died and 22 recovered, and states that the mortality is steadily decreasing.

#### *Immediate Mortality up to the End of 1886.*

Fritsch, 60 cases, 7 deaths; Leopold, 42 cases, 4 deaths; Olshausen, 47 cases, 12 deaths; Schroeder, 74 cases, 12 deaths; Staudé, 22 cases, 1 death; Martin, 66 cases, 11 deaths; and Brennecke, 13 cases, and no deaths.

#### *Alive After Two Years.*

Billroth, 145 cases, 28, or 5.5 per cent; Esmarch, 225 cases, 10, or 11.5 per cent; Fischer, 147 cases, 20, or 8.3 per cent; Volkmann, 131 cases, 7, or 16 per cent; Küster, 132 cases, 14, or 16 per cent; and Martin, 66 cases, 9, or 60 per cent.

If we save any, the operation is justifiable, as without it all must die. Three or four years ago, the Consulting Board of Providence Hospital refused to allow him to extirpate, so he cut and cauterized. The patient left, but returned in four months and would have the cancerous uterus removed. He operated with a fatal termination, on the sixth day, from peritonitis. It is easier to read about these operations than to do them. His first operation lasted an hour and three-quarters; there was no hemorrhage, and dressing was not used. He had recently operated in about half an hour, and the patient recovered. On the tenth day, cystitis developed, which finally got well; and the patient is now reported as well. His experience and reading had encouraged him to emphasize total extirpation.

DR. PRENTISS.—There is a very important question to determine. The surgeons have recommended total extirpation, but suppose the patient will not consent to it, must the general practitioner stand by and say to her, then you may die? Under such circumstances, we should do all in our power to make her as comfortable as possible.

DR. FRY asked Dr. Thompson if the catheter were used. He thought cystitis was caused by the introduction of microbes into the bladder by the careless nurse in using unclean instruments. The parts, as well as the catheter, should be cleansed with some disinfecting lotion before the introduction of the catheter. Cystitis develops as a result of infection.

THE PRESIDENT.—The gentlemen have done the general practitioner an injustice in ascribing the results of delay to him. He cannot always control his patient, and usually the disease has advanced too far when he sees her, and in other cases the chances of an operation are declined when he is convinced they are favorable.

---

*Stated Meeting, December 2d, 1887.*

DR. S. C. BUSEY, *President, in the Chair.*

DR. CHARLES E. HAGNER read the paper of the evening on:

PHLEGMASIA ALBA DOLENS (PUERPERAL).<sup>1</sup>

THE PRESIDENT requested Dr. W. W. Johnston to open the discussion.

DR. W. W. JOHNSTON.—The paper of Dr. Hagner was one of great interest. The historical summary was very interesting, and the severe case of the disease which he reports was one of unusual intensity.

Of the various theories which have been proposed to explain the phenomena of the disease, a few only demand consideration.

1. *The theory of primary thrombosis in the femoral vein without preceding phlebitis.* Coagulation in the veins takes place, in virtue of the physiological hyperinosis of the blood of the pregnant and puerperal woman, the excess of fibrin being sometimes as high as one-third more than in the non-pregnant state. Loss of blood favors coagulability by slowing the current. Post-mortem examinations have shown the veins filled with thrombi without coincident phlebitis (Rigby, Fraser, Jacquemier, Kiwisch).

Opposed to this theory is the fact that, in cases in which the earlier symptoms of phlegmasia dolens have been observed, the veins were free from coagula, but their coats were inflamed. Severe pain, which is the earliest symptom of the disease, is more probably due to inflammatory action than to blood coagulation.

2. *The theory of a septic or altered state of the blood* (Mackenzie and others), *coagulation in the veins and phlebitis being brought about by contact with the vitiated fluid.* Experiments have shown that pus mixed with blood hastens its coagulation. Lactic acid injected into the femoral vein of a dog led to coagulation from the femoral to the vena cava. A boy of twelve years was bitten in the thumb by an adder, next day he had phlegmasia alba dolens. Various morbid states of the blood produce the same result. It is found in the convalescence of typhoid fever and in other infectious diseases.

In opposition to this view, it may be said that there is no proof that the blood is pathologically altered in all cases of phlegmasia.

3. *The theory of primary phlebitis with consecutive thrombosis in the veins.* The severe pain, line of redness and induration along

<sup>1</sup> See original articles in this number.

the course of the femoral vein, with the circumstance that, in some cases, absolute closure of the vein does not result, the disease stopping short of the peculiar edema, are facts which add weight to this view. Schroeder says: "Sometimes thrombosis does not take place, and we consequently meet with cases which, belonging to this class of affections, are especially characterized by the absence of thrombosis." The intima is not vascular and is not subject to inflammation; the middle and outer coats are the seat of the inflammatory process. It is not easy to excite inflammation in a vein from an irritant influence brought to bear on the intima. H. Lee injected irritating and septic substances into the veins without causing phlebitis. These facts cannot be reconciled with the idea that phlebitis is secondary to vitiated states of the blood, but makes it appear as if phlebitis were the primary affection.

In contradiction to this explanation is the fact mentioned by Virchow that, in phlegmasia with thrombosis, the inflammation of the vein may be entirely absent.

4. The theory of Dr. Hull, that the disease begins "*in an inflammation of the muscles, cellular membrane, and inferior surface of the cutis, extending, in some cases, perhaps, to the large blood-vessels, nerves, and lymphatics and glands.*" This has been verbally modified, as by Lusk, to include "*an inflammation of the connective tissue extending from the genital organs to the perineum, nates, and upper part of the thighs, involving the connective tissue between the muscles and beneath the skin.*" If the sheaths of the veins and lymphatics are affected, there is inflammatory thickening of their walls and thrombosis. Against this belief is the fact that inflammation often begins or is limited to the lower portion of the thighs, if we may judge by the location of the pain and the beginning of the edema in the ankle.

5. Another modification of the pelvic origin of the disease traces coagulation in the femoral vein to a *descending clot which begins in the placental site, extends downwards through the hypogastric to the femoral.* The same objections hold here as to the last theory.

6. In a paper read by Dr. Tilbury Fox, great stress is laid upon the fact that thrombosis and simple edema cannot explain the peculiar hard, white induration of the thighs in phlegmasia. It is probable that there is *coagulation within lymph channels, with escape of fibrinous fluid into the meshes of the connective tissue of the thigh.* Undoubtedly the lymphatic system is implicated in some, if not in all, cases.

From an examination of these various theories and the arguments for and against them, and from a review of the whole subject, the most plausible conclusions are:

1. A normal standard state of the blood is necessary to the preservation of blood fluidity and to the integrity of the tunica intima of the veins.

2. The puerperal state has, physiologically, all the necessary conditions which predispose to coagulation. The fibrin is then largely in excess, and this excess is greater still if blood has been lost in labor. The increase of fibrin after repeated hemorrhages has been demonstrated experimentally by Mayer (Landois, "Physiology," p. 69).

3. Septic alteration adds to the predisposition. "Al. Schmidt and his pupils Jakowicki and Birk have shown that some ferment,



probably derived from the dissolution of colorless blood-corpuscles, is found in circulating blood, and that it is more abundant in venous than arterial blood. It is specially remarkable that in septic fever the amount of ferment in blood may increase to such an extent as to permit the occurrence of spontaneous coagulation (thrombosis), which may produce death (Arn. Kohler). In febrile cases generally, the amount of ferment is somewhat more abundant (Edelberg and Birk) (Landois, p. 52).

Why blood should coagulate more readily in the veins than the arteries is explained partly by mechanical causes, but it is also due to the fact that venous blood is more charged with effete matter and with products of septic changes. Moreover, it has been shown, experimentally, that certain substances, especially lactic acid, injected into the veins of a frog, enlarge their calibre (Landois, p. 138), and it is possible that septic blood may act similarly upon the veins and thus accelerate coagulation.

4. It is not so demonstrable that conditions of blood alteration which induce coagulation lead to primary phlebitis. That a thrombus excites phlebitis by contact and irritation is easily believed. Clinical observation, as well as post-mortem investigation, prove that a puerperal phlebitis may appear and run its course to recovery under the same etiological conditions which lead to primary thrombosis, and we, therefore, may infer that crural phlebitis is often due primarily to blood alteration. While thrombosis may occur without phlebitis, and phlebitis without thrombosis, they are usually coincident. Which is more frequently the primary lesion we cannot determine, in the present state of our knowledge. The earliest symptoms, pain and tenderness in the leg, point rather to phlebitis as the earlier lesion.

5. The peculiar edema of phlegmasia dolens seems to show that the disease is due to something more than to obstructive phlebitis, and it is probable that lymphatic coagulation and the transudation of a fluid rich in fibrin gives to this edema its peculiar, marbled-like hardness and whiteness.

DR. J. TABER JOHNSON described a case which had suffered for a long time, and which he was disposed to call phlegmasia dolens. He thought it due to a sepsis. As it occurred in both legs, one after the other, he feared it would sap her vitality and finally kill her. The President was called in consultation and diagnosed lymphangitis. They let her alone, except wrapping the legs in oiled silk and cotton, and she recovered. Inaction is the best practice in such cases. If the thrombotic theory be true, any undue friction of the limb might throw off portions of the clot and produce embolism of the pulmonary or some other artery. Uncomplicated cases get well, but if there is thrombosis, of the pulmonary artery for instance, death usually follows.

He saw a case, with Dr. Sothoron, where the woman had been attended by a nurse who had pulled on the cord, loosened a portion of the placenta, and caused a profuse post-partum hemorrhage. When Dr. S. was called in, her condition was similar to that described by Dr. Hagner. On the fifth or sixth day, she had a chill and symptoms of mild septicemia. Her condition became worse and she had fever every evening and was rapidly becoming exhausted. There was pain on the inside of one of the legs, which was edematous. His diagnosis was phlegmasia dolens. Dr. Johnston has laid much stress upon the edema, but, according to Lusk, Parvin, Galabin, Playfair, and other recent authorities, this was



not true edema. There were quite a number of large abscesses in the leg of the woman above referred to, and large quantities of pus were evacuated. After a great deal of pain and extreme exhaustion, she finally recovered.

He had recently met a very curious case of "milk leg" in a woman whose ovaries he had removed, on account of chronic inflammation. She sat up too soon and there occurred, at the end of the second week, a severe pain on the inside of the left leg. The veins were greatly enlarged, and there was intense edema. She went through the various gradations of puerperal phlegmasia dolens and has now much pain in her great toe. He attributes her symptoms to thrombosis.

This is not a true edema, as it is hard, brawny, and does not pit on pressure. It is not edema due to obstruction of the venous circulation. He favors the thrombotic theory as the principal agency, and thinks it is usually present. The lymphatics have more to do with the disease than we suppose.

DR. W. W. JOHNSTON.—Dr. Johnson referred to his failure to notice the later authorities and their theories. In reply to this, he would say that recent authors have adopted the views of the earlier writers, and but little has been added to the subject within a few years. Dr. Johnson accepts the theory of thrombosis, but this alone does not account for many of the facts observed. An abnormal state of the blood or a diseased state of the vessels must precede coagulation.

DR. KING.—Coagulation is the last act of vitality. Septic blood is sick, and a part dies. In the clot of a thrombus, the blood is practically dead. Why do parts of the blood coagulate (die)? Phlegmasia is not necessarily dependent upon pregnancy and labor. He has seen a case of malignant disease complicated with phlegmasia. The theory of blood coagulation is the best. It occurs most frequently after hemorrhage. He believes in primary thrombosis.

DR. FRY.—Among the causes mentioned by Dr. Hagner is that of erysipelas in its relation to phlegmasia. Tyler Smith mentions a case where a physician attended a case of phagedena, and twenty-four hours after attended three cases of labor, and all had phlegmasia alba dolens. Schroeder accepts the septic nature and only mentions it under puerperal septicemia. There is no anatomical reason to explain the position. It might be due to the fact that the left uterine vein empties into the renal vein, instead of into the vena cava.

DR. W. W. JOHNSTON.—To account for the occurrence of left-sided thrombosis there are some anatomical reasons. 1. It might be due to gravity. 2. The fact that the iliac vein is pressed upon by the iliac artery and the rectum and the woman's position on the left side in labor.

DR. JOHNSTON.—Dr. Johnston's criticisms are not strictly correct, as a great many support the thrombotic theory. In most puerperal conditions, there is a tendency of the blood to clot. To these may be added hemorrhages and septic states. There are three good reasons for thrombosis: sepsis, hyperinosis, and hemorrhage. The later authorities state that the limb should not be rubbed, as it favors pulmonary embolism.

THE PRESIDENT, in response to a request, said that what he had to so say would refer more especially to the lymphatic form of the disease known as phlegmasia alba dolens. He thought that

Rokitansky had correctly described the lesion either as an inflammation of the veins of the lower extremity, especially the crural vein, or an inflammation of the lymphatic tissues. He had seen two cases: in one it was associated with a laceration of the perineum and primary perineorrhaphy; and in the other, referred to by Dr. Johnson, it was associated with pelvic cellulitis, first occurring on one side and extending to the lymphatic tissues of the corresponding limb, and subsequently on the other side, involving the same structures. In neither case could phlebitis be discovered. In both cases, the swelling of the affected limb was characterized by the appearance of lymphatic edema and induration. In one of these cases, tubular lymphangitis was easily made out. Several cases of chronic enlargement and induration of the soft parts of the thighs, following an attack of phlegmasia alba dolens, have been reported. In these cases, the condition of the limb had been described as elephantiasis, and remained persistent during the life of the patient. Whilst he contended for the lymphatic form, he had no doubt that inflammation of the veins was the most common variety; in fact, both venous and lymphatic tissues might be involved in the same case. The inflammation might extend from one to the other, and certainly a lymphangitis may be superadded to a phlebitis. If venous thrombosis is a cause of the phlebitic, so might lymphatic thrombosis be a cause in the lymphatic variety.

DR. JOHNSON.—Was there a tendency to recur in subsequent pregnancies?

DR. HAGNER did not know of any cases where it did recur, but, in looking up the literature, this point was not examined. The blood must be the primary cause at fault or it would be hard to account for this condition. The first was not an ordinary case, as there was uremia before the birth of the child; and she probably had nephritis before the disease developed. She had all the symptoms of septicemia. Her blood must have been in a condition to favor thrombosis. In old people and those with weakened constitution, the blood is in a vitiated condition and thrombosis is not uncommon. In his first case, he gave large doses of potassium chlorate to furnish oxygen to the blood, and its effects upon the kidney were not then known.

## TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

*Regular Meeting, Friday, March 23d, 1888.*

*The President, HENRY T. BYFORD, M.D., in the Chair.*

THE PRESIDENT exhibited

TWO UTERI REMOVED PER VAGINAM FOR FIBRO-SARCOMA AND CARCINOMA RESPECTIVELY.

I have here two uteri which, as you see, are quite large to have been removed by the vaginal method. The first, which is the size and shape of a medium-sized orange, with the cervix hanging to it like a thickened stem, is a fibro-sarcoma. The entire organ is involved excepting a superficial layer of muscular tissue and peritoneum, and was ulcerated within so that the entire cavity was converted into a pus pocket. The uterus was curetted for fungosities six and a half years ago and four and a half years ago by an eminent obstetrician, two years ago by a prominent homeopath (for endometritis fungosa), and by myself four months ago. The patient is 47 years old, and has two children, one twenty-eight years and the other twenty-five years old. The uterus is known to have been enlarged for seven years. The chief symptoms have been metrorrhagia, muco-purulent, slightly offensive discharges, and daily colicky pains.

The uterus was removed two months ago, and the patient, for the first time in years, feels perfectly well. I ligated the broad ligaments in the face of great difficulties. The right one was so much thickened (probably diseased) that it was practically inelastic, and was ligated *in situ*. The whole vagina was contracted like that of a virgin, and was so unyielding that it was lacerated slightly before it could be dilated sufficiently for work. The uterus, after having been cut loose, was delivered with great difficulty, and tore away some of the ligatures. Two compression forceps finally secured the bleeding points; they were left on for twenty-four hours. The iodoform tampon was removed at the end of a week.

The other specimen is fully the size of a man's fist, and is an adenoma of the fundus and posterior wall which has undergone cancerous degeneration. The patient is 55 years old, anemic, and has had several children, the youngest of whom is seventeen years old. She ceased menstruating at fifty years, but soon after commenced to have a pinkish discharge, which has continued and increased ever since, and has lately been somewhat purulent and

slightly offensive. She suffered with uterine cramps. On account of the size of the uterus I found it necessary to retrovert it, in order to get at the upper portions of the broad ligaments. The operation was performed March 10th. Although pus escaped into the vagina from a rent made in the diseased posterior uterine wall by the tenaculum forceps used to aid in the retroversion, the recovery has been the same as that after a normal labor. The iodoform tampon was removed on the fifth day, and the first douche given.

DR. FRANKLIN H. MARTIN read a paper entitled

A REPORT OF FIFTEEN CASES OF FIBROID TUMORS OF THE UTERUS  
TREATED BY GALVANISM.

(The report including only the year's work of 1887.)

From Jan. 1st, 1887, to Jan. 1st, 1888, I applied galvanism in strong, accurately measured and definitely concentrated doses in gynecological cases over fourteen hundred times. During this time I employed galvanism for uterine fibroids six hundred and twenty-three times in fifteen cases. The result was as follows:

Not suitable for treatment and recommended for operation, 1	
Benefited.....	4
Symptomatically cured.....	5
Absolutely cured.....	5

The author of the paper then selected and gave in detail the history and treatment of five cases, two of which were symptomatic cures, two actual cures, and the remaining case was benefited.

The following is a short sketch of each case:

*Case I.*—Diagnosis: Large, painful, hemorrhagic, interstitial, and subperitoneal fibroid tumor of the uterus, filling the pelvis and extending nearly to umbilicus.

Treatment: a large number of applications of galvanism given by three different methods of procedure, extending over a period of more than two years.

Result: benefited.

The above is a continuation of a history, cited as Case X. in an article read by the author before the Section of Obstetrics and Diseases of Women at the thirty-second annual meeting of the American Medical Association at St. Louis, May 5th, 1886.

Miss C., unmarried, age 26, consulted me on account of large abdominal tumor. Upon examination, I found a large abdominal tumor, attached, as I then thought, to the whole anterior wall of the uterus, crowding that organ away from the bladder. I have since ascertained that the portion previously diagnosed as the uterus is simply the cervix, the uterus being lost in the mass of the tumor, and its canal traversing its entire depth. The tumor was ovoid, smooth, and easily movable under the abdominal walls,

about seven inches in its long, and six inches in its transverse diameters. The growth was increasing in size rapidly.

This patient then received in turn thorough trials of the iodine and glycerin treatments, ergotin treatment, and, as a last resort, surface applications of galvanism were made. This latter, thoroughly carried out, checked the growth, and markedly reduced the size of the tumor. This was found, however, to be of a temporary nature, the growth enlarging rapidly at all times except when under treatment. With an idea of getting more marked results, abdominal galvano-puncture was at last resorted to. In September, 1886, four operations were performed in intervals of ten days. The patient was anesthetized, and a steel needle, four millimetres in diameter, with a trocar point, insulated with hard rubber to within three centimetres of the point, attached to the negative pole of the battery, was thrust through the abdominal wall into the thickest portion of the tumor. A large animal membrane electrode was placed upon the abdomen in close proximity, and attached to the positive pole of the battery. A current of two hundred milliamperes was turned on and allowed to pass for fifteen minutes. The effect of these operations was a rapid diminution in the size of the tumor. The patient was advised to await further developments. At the end of two months she returned, stating that the growth of the tumor had recommenced, the hemorrhage being excessive.

Dreading the necessary risk attendant upon abdominal puncture, and having at this time successfully treated a number of cases by Dr. Apostoli's method, I determined to adopt that safer and, in my opinion, much more effectual means in this case. Therefore, in January, 1887, regular treatment was instituted, consisting in the introduction of an intra-uterine platinum electrode to the bottom of the uterus, which was found at this time to measure eighteen and a half centimetres or seven and a half inches in depth. To this electrode was attached the negative pole of the battery, and the circuit was completed by the use of the membranous abdominal electrode. Seven treatments were given by the 1st of February, when menstruation appeared. The first four of these seven treatments were of the negative intra-uterine, the last three of the positive intra-uterine variety. The highest current borne by the patient was fifty milliamperes. The following menstruation was free from pain, but hemorrhage was as excessive as ever. No change in tumor.

February. Four treatments were given in this month, all negative intra-uterine, with no apparent result on tumor or amount of hemorrhage at next menstruation. No pain at menstruation.

March. Two treatments, negative intra-uterine of about fifty milliamperes strength. The hemorrhage at the next menstruation caused considerable exhaustion, but was accompanied with no pain, nor was there any change in the tumor.

April. Eight positive intra-uterine treatments were given, with a view of modifying, if possible, the excessive menstruation. The patient at this time was able to tolerate without discomfort a current of as high intensity as one hundred milliamperes. The hemorrhage of the next menstruation was not materially decreased; the tumor showed signs of reduction—the uterus measuring sixteen centimetres. I was puzzled at this time to get some means of checking the exhaustive menorrhagia. I was convinced that the current tolerated was not sufficiently strong to produce the desired coagulating effect upon the whole surface of the endometrium in contact with the long internal platinum electrode. The current, in other words, was not concentrated enough at any one point of the electrode to produce its characteristic coagulating effect, sufficient to check hemorrhage. I, therefore, modified Dr. Apostoli's method, by instituting a means of internal concentration. This was accomplished by devising my flexible internal electrode, with a given active surface, which, acting only on a comparatively small portion of the endometrium at one time, would enable me in several treatments to successively apply to the whole surface of the uterus a current of sufficient concentration to accomplish the desired results. The electrode adopted in this case was three millimetres in diameter, and had an active surface of four square centimetres, and the current used with this was at all times to be one hundred milliamperes, passing for five minutes.<sup>1</sup>

May. Five positive intra-uterine treatments were given in this month with my new electrode. At the first application the active portion of the electrode, the distal end, was introduced to the bottom of the canal, a gauge on the staff of the sound marked the distance to which the instrument entered the womb. At the next treatment the gauge was placed so that the active portion of the electrode would just reach the point acted upon by the former treatment. The same principle was carried out until every portion of the canal had been operated upon by the concentrated current. Five treatments were given before the next menstruation. The effect was magical. The flow lasted but three days. No pain.

June. Four treatments early in month were given with the concentration electrode as the negative pole. The patient at this time left city for three weeks.

July. Thirteen treatments were given, first six negative, seven positive. Tumor decreasing in size. Depth of uterus fifteen centimetres. Menstruation lasts four days and is normal in quantity.

August. Five treatments, negative.

September. Six treatments, four negative, two positive. Measurement of abdomen was made at this time, and over the most prominent part of tumor was thirty-seven and a half inches.

October. Six treatments, all negative. Menstruation still re-

<sup>1</sup> See Medical Record, December 17th, 1887.



mains scanty. Gain in flesh and improvement in general health.

November. Nine treatments, three before menstruation and six following, all negative intra-uterine.

December. Five intra-uterine negative treatments.

Although there has been a general gain in flesh since last measurement made, the patient measures two inches less or thirty-five and a half inches. Depth of uterus fourteen centimetres or five and a half inches.

Thus this patient in one year has gained in flesh, in strength: has normal menstruation instead of menorrhagia, and is perfectly free from pain. The uterus has been reduced from seven to five and a half inches in depth, and the mass of the tumor is reduced fully one-third in size. Patient still under treatment.

*Case II.*—Diagnosis: Myo-fibroma of the fundus of the uterus enlarging the whole organ.

Treatment: Thirty-two applications of galvanism.

Result: Cure.

Mrs. D—, age 24, married two years, wife of a mechanic, no children or miscarriages, presented herself for treatment March 23d, 1887. Menstruation commenced at 14; at present irregular, and for five days excessive; is accompanied with headache, and is followed by severe neuralgic pains. Bowels constipated; hemorrhoids: leucorrhea, but not excessive; frequent and painful urination.

Objective symptoms: Vagina small. Cervix large and patulous. Uterus large, with canal taking the direction parallel with the axis of the body and measuring eleven centimetres or a trifle more than four inches in depth. I was assisted by Dr. Wunismark in the treatment of this patient.

Thirty-two applications were given this patient by means of the concentration electrodes with a current of one hundred milliamperes at each sitting.

The effect of the treatment was noticed in the behavior of the first menstruation, the flow having been modified in quantity and was without the slightest pain. The last treatment left the uterus seven centimetres in depth, normal in contour, with no evidence of a thickened fundus. The patient who had previously been anemic in appearance, is now full-blooded, in the best of health. Discharged cured.

*Case III.*—Diagnosis: Painful, bleeding fibro-myoma in anterior wall of uterus.

Treatment: Galvanism—thirty-nine treatments.

Result: Improvement in general health and reduction of the growth. Menorrhagia cured and pain at menstruation relieved.

*Case IV.*—Diagnosis: Large, painful, bleeding myo-fibroma of the uterus filling the pelvis and abdomen.

Treatment: One hundred and fourteen applications of galvanism by Apostoli's method.

Result: Symptomatically cured, pain and menorrhagia relieved, tumor diminished in size, and patient restored to health.

*Case V.*—Diagnosis: Large, painful, hemorrhagic, interstitial and subperitoneal fibroid growth of the uterus completely filling the pelvis and lower portion of abdomen.

Treatment: Thirty-eight negative intra-uterine, galvanic applications and eleven positive intra-uterine by Apostoli's method.

Result: Tumor reduced one-third, hemorrhage modified, pain relieved.

*Case VI.*—Diagnosis: Hemorrhagic fibro-myoma of posterior wall of fundus increasing uterus to ten centimetres in depth.

Treatment: Sixty-two applications of galvanism by Apostoli's method, by means of my flexible concentration electrodes.

Result: Growth absorbed, the uterus being reduced in depth to seven centimetres. Hemorrhage relieved and patient completely restored to health.

*Case VII.*—Diagnosis: Large, painful hemorrhagic myo-fibroma of the uterus filling pelvis and lower abdomen.

Treatment: Thirty applications of galvanism.

Result: Symptomatically cured. Uterus reduced in depth from nineteen centimetres to sixteen centimetres. Tumor markedly reduced. Menorrhagia cured, and great improvement in flesh and strength accomplished.

*Case VIII.*—Diagnosis: Myo-fibroma of the right horn of the uterus, increasing the depth of the uterus to eight centimetres.

Symptoms: Excessive hemorrhage, accompanied and followed by excruciating pain that remained for ten days following menstruation.

Treatment: Sixty-two applications of galvanism by Apostoli's method, modified by the use of my intra-uterine concentration electrodes.

Result: Cure.

*Case IX.*—Diagnosis: Large, interstitial, hemorrhagic, painful fibroid growth extending to within two inches of the umbilicus and causing enlargement of the uterus.

Treatment: Thirty-seven intra-uterine galvanisms—twenty negative, seventeen positive.

Result: Reduction of growth fully one-third. But little relief of hemorrhage or pain up to the present time.

*Case X.*—Diagnosis: Large, subperitoneal fibroid growth, about eight inches in its long, and four in its shorter diameter, with irregular contour attached to the entire fundus and posterior wall of a slightly enlarged uterus.

Symptoms: Distressing pressure upon rectum, bladder, and general complaint of heaviness in pelvis with "bearing-down," and difficulty in locomotion. Menstruation profuse and painful. General health impaired.

Treatment: Thirty-five applications of galvanism.

Result: Symptomatic cure.

*Case XI.*—Diagnosis: Interstitial, painful hemorrhagic myofibroma of the anterior wall and fundus of the uterus increasing its depth to eight and one-half centimetres or three and one-half inches.

Treatment: Thirty intra-uterine applications of galvanism.

Result: Benefited. Depth of uterus reduced to two and one-half inches, general health improved, menorrhagia modified, and pain relieved.

*Case XII.*—Diagnosis: Large, hemorrhagic, interstitial and subserous fibroid growth of the uterus increasing the depth of the organ to fifteen centimetres or nearly six inches.

Treatment: Twenty-one applications of galvanism by Apostoli's method as modified by myself.

Result: General health restored, hemorrhage checked, pain and pressure in pelvis relieved, tumor reduced one-third, and depth of uterus decreased to thirteen centimetres. Patient still under treatment.

*Case XIII.*—Diagnosis: Myo-fibroma of the anterior portion of neck and body of the uterus, three inches in diameter. Uterus not materially changed in depth, three and one-quarter inches.

Symptoms: Menstruation profuse, but not excessive; much pain during latter part of flow. Frequent and difficult urination.

Treatment: Sixty-one applications of intra-uterine galvanic treatment by my modification of Apostoli's method.

Result: Cure.

*Case XIV.*—This case was found, after a few treatments had been given, not suitable for this method of procedure. A submucous mass from the interior of the fundus of the womb gradually filled the uterine cavity, and when I discovered it was pedunculated, I advised her to return to her home and have it removed by a surgical operation. The operation was successfully accomplished by Prof. Mann, of Buffalo, N. Y.

*Case XV.*—Diagnosis: Myo-fibroma of fundus and posterior portion of uterus, accompanied with menorrhagia.

Treatment: Twenty-three intra-uterine applications of galvanism by Apostoli's method as modified by me.

Result: Cure.

DR. P. S. HAYES.—The point has been well discussed and there can be little further said. It occurs to me, however, that there may be a reason why the positive electrode used in the uterus is more hemostatic than the negative, and that is on account of the cicatrix which follows the use of the positive electrode being more prone to contract; the cicatrix following the negative being like the cicatrix of a burn with caustic alkali. From my own experience in the use of electrolysis I find frequently that, at the time of operating, there is a slight hemorrhage, or at least an oozing of bloody serum more likely to follow the use of the positive than the negative pole, especially if any other than a platinum electrode is used. The destruction of tissue around the positive pole is not

nearly as great as that around the negative, the oxygen is separated about the positive pole and the acids are liberated, and I find the eschar which follows essentially the one produced by the action of the strong mineral acids on albuminous tissue. On the other hand, if the negative pole is used, we find that the destruction of tissue extends probably twice as far from the electrode. The appearance is entirely different, that from the negative pole looking very much as though it had been frozen, and the scar tissue which results from the use of the negative pole does not contract as firmly as does that which follows the positive, and it seems to me that this can be explained to a large extent by the chemical action which takes place along the electrodes. There are two and possibly three factors present in this method of using electricity; there is the physical effect, due of course to the liberation of the gases around the electrodes; there is the chemical effect, due to the electrolysis or separation of the salts of the body into the acids at one pole and the alkalies at the other; and then there is the physiological effect, which we do not understand as well as we do the chemical and physical effects. Whatever be the amount of chemical action which takes place around the pole that is in the uterus, an equivalent amount of chemical action takes place under the electrode that is placed on the abdomen, and almost invariably you will find an irritation of the skin, and you may possibly get a blister within the circumference of the electrode, so that on the second or third day you will find that it is difficult to apply the electrode where it was first applied. That the electricity as it passes through the tumor affects the cell life is a question that has yet to be proven, and I think the determination of the matter can be considered almost entirely due to the peculiar chemical action which takes place around the electrode.

DR. E. J. DOERING.—I would like Dr. Martin to make an explanation about the strength of the current which can be used. There seems to be considerable difference of opinion among gentlemen in various parts of the country.

DR. FRANKLIN H. MARTIN.—I am much gratified with the complimentary remarks made by the different gentlemen of the Society in the discussion of Dr. Doering's question; it is a difficult one to answer in the time I have at my disposal, but I would say briefly that with the means of concentration that I have adopted in my intra-uterine flexible electrodes, a current of from fifty to one hundred milliamperes is all that is necessary, in order to obtain all the benefits of this treatment. Without these electrodes, however, and by the original Apostoli method, I have employed currents ranging from one hundred to one thousand milliamperes, and this without any detrimental effects.

DR. J. C. HOAG read the following paper:

#### SOME CONSIDERATIONS REGARDING DEATH OF THE FETUS IN UTERO.

A careful inquiry concerning the comparative frequency of premature expulsion of the impregnated human ovum can scarcely fail to surprise the physician, although anything like statistical accuracy in its determination is, for very obvious reasons, an utter impossibility. In making up an approximate estimate, one must needs remember that the impregnated ovum is often discharged at a menstrual period without the patient's knowledge of

any unusual circumstance beyond an increase in the discomforts which often attend menstruation, and which are not infrequently attributed to trivial causes. To say nothing of the patient's ignorance, the physician himself is frequently unable to decide whether such an occurrence has taken place, even after an examination of the menstrual discharges.

Good authorities are of the opinion that we may safely reckon one case of abortion in the first months of pregnancy to every eight or ten cases of parturition at full term. Accordingly, the importance of careful study, to ascertain as fully as possible the proximate causes of this occurrence, cannot be overestimated, and still the writer believes that there is evidence of great apathy on the part of the profession in this respect, as evidenced in the very terms employed in classifying the causes of abortion. The convenient term "habitual abortion," for example, is one which cloaks a great part of our ignorance of this subject. Such an expression as "abortion from unknown causes," would at least be preferable as holding forth in its very confession of ignorance an inducement to explore its unknown depths.

As an example of the unsatisfactory state of our knowledge in this direction, one need only turn to the reports of large lying-in hospitals. In an interesting analysis<sup>1</sup> of two years' work in Prof. Gustave Braun's Clinic, 6,230 labor cases are reviewed. Premature labor<sup>2</sup> occurred in 565 cases, the causes being tabulated as follows:

Syphilis .....	(about) 70
Pulmonary tuberculosis .....	9
Peritonitis .....	2
Other fevers .....	23
Faulty placental insertion .....	10
Vitium cordis .....	1
Injuries .....	7
Eclampsia .....	1
Induction of labor .....	4
Twin pregnancy .....	43
Total .....	170

This leaves 395 cases to be relegated to the category of the unknown.

In Braun, Chiari, and Spaeth's analysis of 7,835 cases of labor occurring in the Vienna Hospital for the year 1850-'51, 393 cases

<sup>1</sup> "Klinische Mittheilungen über Geburt u. Wochenbett, etc., aus den Jahren 1881 u. 1882," von Dr. C. Fürst.

<sup>2</sup> The terms premature labor, abortion, miscarriage, immature delivery, etc., are so variously used that the writer prefers to quote the exact expressions used by the different authors.

of premature labor are included. In only 126 cases, or one-third, could the cause be definitely determined.

*Causes of the Premature Interruption of Pregnancy.*

These may be considered as they relate, 1st, to the father; 2d, to the mother; 3d, to the ovum; and 4th, to traumatism.

*Causes referable to the father.*—These are constitutional vices, particularly those of syphilitic origin.

*Causes referable to the mother.*—These include general and local diseases, climatic and hygienic influences, and finally certain idiosyncrasies which seem to be productive of abnormal irritability on the part of the uterus, even in the absence of recognizable lesions.

*Causes referable to the ovum.*—These comprise all diseased conditions of the fetus and its appendages.

*Traumatism* includes accidents, efforts at criminal abortion, and the justifiable induction of labor.

In considering the subject of abortion in general, one can scarcely fail to be struck by the disproportionate frequency in multiparæ, and this seems clearly to depend on local diseases, such as endometritis, metritis, and uterine displacements.

With regard to diseases of the ovum I quote from Charpentier's work as follows: "Considered as a whole, the ovum represents a membranous sac composed of two membranes peculiar to it, the amnion and the chorion, and of one membrane of uterine origin, the decidua, a sac which contains the fetus, the cord, the placenta, and the amniotic fluid. Each of these parts may be the seat of lesions constituting the pathology of the ovum."

If we exclude attempts at criminal abortion and the justifiable induction of labor, traumatism may be said to include only a small proportion of the causes of abortion; thus, in the two analyses above referred to, we find only 15 cases referable to injuries in a total of 904 cases. These figures, would not, however, represent the proportion in private practice.

But whatever may be the mediate causes of the interruption of pregnancy, the death of the ovum is almost without exception the immediate cause of the awakened uterine activity and the premature expulsion of the product of conception.

Death of the fetus may be determined by disturbances of nutrition, due to faulty development of the ovum, and especially its appendages, which lead to abstraction from the fetus of its supply of nutriment and oxygen. This may occur when the energy of growth in the membranes is so considerable as to unduly divert the blood supply to their development at the expense of the fetus, or when suddenly or gradually the exchange of blood between the mother and the fetus is obstructed or destroyed, the one condition prevailing in cases of inflammation of the membranes, which, when affecting the chorion, results in the formation of moles, the other



when the uterine mucous membrane is the seat of the chronic inflammation known as endometritis decidua.

Again the exchanges between fetal and maternal blood may be impaired by maternal hemorrhages, whether from the uterus or from other organs; thus, in cases of hypertrophic development of the tufts of the chorion, the fetal vessels may be so compressed as to fill the maternal blood-spaces, as seems to be the case in syphilitic disease of the membranes. Extravasations from the placental vessels may also compromise the circulation of the fetus, and when extensive cause its death. These extravasations may be produced by comparatively slight mechanical influences, in cases where the vessels have very thin and delicate walls, and particularly in cases of fatty infiltration consecutive to endometritis. Again, extravasations may be caused by local hyperemia due to the abuse of alcohol, or to fever, uterine displacements or organic diseases of the heart, lungs, or liver.

As for syphilis, this may cause the death of the fetus either primarily or secondarily. When it develops late in pregnancy, the fetus may reach full term. When it develops earlier, it is much more likely to result in the interruption of gestation.

The point of this paper is to draw attention to the influence of endometritis, in determining the premature expulsion of the ovum. The great frequency of this disease is a matter of daily observation, and its influence in the production of abortion cannot be doubted.

If a woman aborts frequently, we are apt to say she aborts because she has aborted, she is the subject of habitual abortion. With this we content ourselves, whereas, no doubt, a careful study of these cases would often lead to the discovery of a pathological cause of remedial nature. That a lack of fecundity on the part of a woman is often due to an endometritis, and is overcome by a cure of the diseased condition, is a matter of frequent clinical experience. That systematic writers mention the rôle played by endometritis in the production of abortion, and mention the treatment of the disease as one of the prophylactic measures in the prevention of abortion, is of course true, but it may be safely asserted that the great importance of this subject has not been sufficiently insisted upon, and that, if attention be especially directed to it, the causes and treatment of so-called habitual abortion will soon become much better understood.

In endometritis, extravasations into the hypertrophied tissue of the decidua often take place. If the disease is of moderate extent, or if it develops late in pregnancy, and does not involve the placenta itself, it may be borne without influence upon the development of the fetus. If, however, it develops earlier or in a severer form, it may often compromise the life of the fetus by leading to endometritis decidua with its hyperplasia, extravasations, and fatty infiltrations. If the placental decidua be involved,

labor, when it comes on, is apt to be complicated by adherent placenta with its consecutive dangers.

The frequency with which one meets examples of adherent placenta, in cases of labor which are otherwise normal, is to me a hint of a link connecting endometritis with abortion.

The discovery of the true pathology of the puerperium has been one of the grandest life-saving discoveries of all times, and in the pathology of pregnancy we have a field which may be made productive of almost as rich harvests of human lives.

*Report of Case.*—I now offer for your inspection a specimen of macerated fetus with its appendages. The patient who gave it birth was born in this State. She is 24 years of age, well-developed, weighing about one hundred and sixty pounds, is strong, and claims to have enjoyed very excellent health for the most part. She was married three years ago, her husband being a skilled mechanic of exemplary habits and enjoying fairly good health.

Seven months after marriage, the patient gave birth to a macerated fetus of six or seven months' development. One year later, this occurrence was duplicated. About a year and a half later still, she gave birth to the fetus which you now see.

The placenta of the first fetus was somewhat adherent, and did not come away entire. The patient spent two weeks in bed, and, according to her own statement, was pretty sick. Subsequent to this, she enjoyed good health until after the birth of the second fetus, since which time she has not felt as well as before marriage.

A leucorrheal discharge made its appearance after the birth of the second fetus, and has continued most of the time to the present day, and since this event, her menstrual periods have been accompanied by pain, headache, and fever. The patient has never flowed much during labor, and never at all during gestation.

My acquaintance with the patient began on the 28th day of last December, when I was informed that she had reason to suspect that pregnancy had been interrupted, and requested an examination. I had no hesitancy in pronouncing the fetus dead, whereat she expressed great regret, saying she had long desired a child, and had believed that this time her hopes would be realized.

The examination revealed a doughy condition of the belly, which was not distended in proportion to the supposed period of gestation. The position of the fetal parts could not be made out. The os externum admitted one finger. A thick muco-purulent discharge of disagreeable odor was present in considerable quantity.

As regards subjective sensations, the patient said that the last fetal movements had been felt four days before, and that they had grown gradually feebler before altogether ceasing. She had also experienced sharp pains in the abdomen, and had noticed a feeling as though the fetus had turned over, such as is often described in

connection with a dead fetus. She had not, however, noticed the other sensations of mawkish taste in the mouth, languor, and a sensation of cold in the abdomen from stoppage of the fetal circulation, and concomitant abstraction of heat from the uterus—a phenomenon, by the way, which has been made available as a diagnostic point in determining whether the fetus has died or not.

I advised the patient that she might expect the expulsion of the fetus in about ten days, and requested her to use the vaginal douche.

On the 5th day of January, twelve days after the cessation of fetal movements, I found the patient in the second stage of labor, the pains having begun some hours before. I had barely time to offer support to the fetus before it was discharged, with the membranes intact, the placenta soon following under the influence of gentle compression of the uterus. The placenta was intact, and labor ended with a moderate discharge of blood.

With the exception of the presence of a small fresh coagulum on the surface of the placenta, a pale color, and considerable friability of its tissue, I could discern nothing abnormal in its appearance.

The fetus itself is fourteen inches long, and corresponds to the sixth month of development. It exhibits the usual appearances of maceration in the softening and separation of the epidermis, the dark discoloration of the corium, the flaccidity of the body, the separation of the cranial bones, and the looseness of the scalp. These appearances remain very much the same now as they were at birth, and you may judge them for yourselves.

Subsequent to labor, the patient felt very well, with the exception of painful contractions of the uterus and distention of the breasts, conditions which received appropriate treatment. At noon of the sixth day of the puerperium, I was struck by the flushed appearance of the patient's face, and, upon inquiry, found that she had awakened that morning with a severe headache; but it required additional interrogation to elicit the fact that she had also experienced a chill (which she referred to as merely coldness of the feet), and some additional severity in the pains from uterine contractions.

The temperature, which up to this time had been nearly normal, was now found to measure 100.5°. The lochia was somewhat fetid, but the patient said she had passed no clots whatever. A vaginal examination revealed a subinvolved uterus. The patient accordingly presented every appearance of one about to enter upon child-bed fever.

At 5 o'clock P.M., the temperature was 101.5°. With the assistance of the husband, I placed the patient upon her side and, introducing a Sims' speculum, proceeded to thoroughly irrigate first the vagina and then the uterus with a carbolic acid solution, employing for this purpose the long glass fenestrated nozzle with

double curve, and facilitating its introduction and the subsequent procedures by the use of the double tenaculum forceps.

With a good-sized curette of a modified Sims' pattern, I next proceeded to scrape the placental site, with the result of bringing away, what seemed to me, an enormous quantity of soft pulpy material, composed almost wholly of fibrin and blood-corpuscles and which I now offer for your inspection. I estimated the total bulk of this material as about equal to the volume of a three-ounce phial.

At first I was unable to reach the fundus uteri with the instrument, but after repeated efforts, which resulted in bringing away consistent masses half as large as one's finger, I was able to reach every part of the endometrium. Every stroke of the curette dislodged masses of fibrin, but even after a most vigorous scraping the endometrium at the fundus had a rough, knobby feel.

Following the use of the curette with a renewed employment of the douche and placing some pencils of iodoform in the uterus, I arranged the patient comfortably in bed and was interested to measure her temperature. It had subsided  $1.5^{\circ}$ . The following morning I find the patient, after a good night's rest, with a normal temperature and feeling far more comfortable than at any time since her labor.

The temperature remained normal for three days, when it exhibited a considerable exacerbation. I accordingly introduced a Sims' speculum again and thoroughly douched the uterus. The speculum was necessary, because I found it impossible to introduce even the convenient nozzle above described without it, and this leads me to remark, parenthetically, that after having employed the intra-uterine douche for nearly six years, I have reached the conclusion that it is occasionally quite impossible to administer it without the assistance of the speculum and that unnecessary violence is often resorted to in attempting to introduce the nozzle. In my case, even with the speculum it was not easy to do so without the aid of the tenaculum. As a corollary to this proposition, I venture the assertion that the physician often deceives himself in believing that he has administered an adequate intra-uterine douche, when in point of fact the nozzle of douche has barely entered the cervical canal. After the second and last douching, my patient made a rapid recovery.

In this case, I am satisfied that neither the patient nor her husband has ever been the subject of syphilis. The patient herself has undoubtedly long suffered from endometritis, although this was perhaps not the occasion of her first mishap. I believe that a repeated application of the curette in this case and the additional application of topical remedies will effect a cure of the endometritis and enable her to give birth to a healthy child, if she again become pregnant.

I have said nothing, however, as yet with regard to another

point which may have some bearing on the causal relations of fetal death in this case. The patient has an abnormally slow pulse, the heart often pulsating as infrequently as forty-four beats to the minute. The relations of heart diseases to pregnancy and parturition have been discussed by various authors, and Matthews Duncan<sup>1</sup> has suggested the possible influence of such diseases upon the production of abortion.

The more I use the curette in puerperal cases, the better pleased I am with it. I prefer an instrument with a large scraping surface and with a long shaft, set in a convenient handle. The presence of foreign bodies in the puerperal uterus is sure to obstruct the progress of involution, and the depth of the canal is altogether disproportionate to the size of the retained decidua or placental tissue or coagulum. Duncan has reported a case where a small bit of placenta was retained in which, at the time of the removal of the tissue eight months after the expulsion of the fetus, the uterine canal was eight inches deep. In my case I found that involution had made no progress at the time of the curetting, and the instrument which I used, although eleven inches long, was almost too short.

I cannot help feeling that the employment of the finger-nail as a curette is a dangerous procedure. It is of interest in this connection to note the results of some recent experiments by Prof. Fürbringer, as reported in the *N. Y. Med. Record* of March 10th. The experimenter, employing for his subjects thirteen assistants and chiefs of clinics, required them to carefully disinfect their hands according to the most approved methods. He then succeeded in extracting enough septic material from under their finger-nails to start colonies in twelve out of the thirteen cases.

For my own part, I infinitely prefer the curette, which I do not hesitate to use in any case of abortion where I suspect the retention of even small quantities of matter if I deem a removal of it requisite.

I have made some microscopical examinations of the specimen presented this evening, but will refrain from a discussion of the minute pathological aspects of fetal death at present, hoping to make the subject one of more extended study at some future time.

A word with regard to the management of labor in general may not be entirely out of place in this connection. I lean more and more to the side of conservatism in obstetrics. I do not believe that it is *best* to use even the vaginal douche after labor without some special indication for it. As for the intra-uterine douche and the curette, I think they are not very often needed, but that when either one of them is required, the other is apt to be needed too, and certainly I would not think of using the curette without both preceding and following its use with the douche. Further, a single

<sup>1</sup> Matthews Duncan, Clinical Lectures, 1880.



intra-uterine douche is often worth more to the patient, if properly and thoroughly given, than a dozen.

Finally, I would like to reinforce what I wrote in a previous paper, read before this Society, with regard to the value of auscultation and external palpation as enabling us to avoid frequently repeated vaginal examinations. I have very recently read with great interest that Credé, always a conservative and successful obstetrician, has of late practically abandoned vaginal examinations, and teaches others to do so. At the time when the paper above referred to was read, I was unaware that any one had ever definitely insisted on this point.

DR. P. S. HAYES.—I was glad to hear Dr. Hoag say that there was difficulty sometimes in administering the intra-uterine douche. His case brings forcibly to mind a case I had, where Dr. Nelson was called in consultation. The woman had a strongly adherent placenta. She had at the third or fourth month attempted to produce a miscarriage by the oil of tansy, or something of the kind, and had failed, but she had produced a good deal of irritation and, as a result, there was a strongly adherent placenta. I had to introduce my hand to remove the placenta. A few days afterwards she developed puerperal fever, and the strangest part of it was that apparently there was no odor. I used intra-uterine injections, and after one or two injections she had a chill and high temperature, and I found a difficulty in introducing the tube. In order to introduce the tube, I placed my hand on the abdomen and pushed the uterus upwards and backwards, and, when that was done, there was a free discharge of fetid lochia which had accumulated there. While I did not use a speculum, I think if one had been used, and the tube carried to the fundus every time, the case would have required fewer injections to have made the good recovery which she eventually did make. In this case there was undoubtedly an ante flexion of the puerperal uterus, which effectually closed the uterine canal and caused the accumulation of the lochia in the uterine cavity.

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

*Meeting of November 19th, 1887.*

*The President, GUSTAV ZINKE, M.D., in the Chair.*

THE PRESIDENT reported the following case :

TWIN PREGNANCY. ABORTION AT TWO DIFFERENT PERIODS OF GESTATION. CAUSES : VOMITING IN THE ONE, PLACENTA PREVIA IN THE OTHER.

The frequent occurrence of abortion of the ovum, and the numerous causes which lead to it, are so well understood that a



physician seldom pays special attention to what may have been the active factor in the production of a miscarriage in any given case; unless it be that he is called upon to prevent the same, or to render testimony in regard to it before a court of law. But occasionally cases of vital interest occur, the success or failure of which reflect upon the diagnostic skill and judicious treatment of the patient on the part of the physician in charge. Again special interest frequently attaches itself to cases regarding the manner in which the womb rids itself of its contents; the latter being not unfrequently of such a surprising character as to lead to doubts and embarrassment on the part of all concerned.

The following case, though not particularly unique in itself, will be found of interest, and may, perhaps, be a subject for profitable discussion.

Mrs. X., aged 28, mother of four children, of good physique and of good family as well as personal history, had been attended by me in her last three confinements, all of which were natural in their course and free from any mishaps. Recoveries were prompt and perfect. With the exception of a general endometritis, occurring some time between the births of the third and fourth child, there is nothing in her history indicative of a constitutional vice or malady. This endometritis was treated with partial success only, the cervical canal remaining somewhat patulous, irritable, and the seat of more or less abnormal discharge; all this was kept in abeyance only by the constant use of vaginal irrigation, and strict attention to general health. When these precautions were omitted, all the symptoms pertaining to the disease of the endometrium were at once precipitated, and yielded only to treatment usually employed by the gynecologist in such cases.

On the 21st of January, I was consulted again regarding a recurrence of these symptoms and treated them as before, but not with the same immediate, though partial success. Menstruation was regular up to this time. Patient complained of constant pain in back and groins, rendered worse by locomotion and at the menstrual period. Vulva and vagina red, swollen, and painful to the touch. Uterus in normal position. Cervix exceedingly red, about three times its natural size; eversion of its canal; os patulous, granular, and hidden in a profuse yellow cream-like discharge, and tinted with blood. Internal os open; corporeal cavity increased moderately in length and bleeding on introduction of sound, which was manipulated with the greatest caution. *Treatment:* Cleansing of cavities and applications of Churchhill's tinct. of iod. Tamponment of boric acid and glycerin; rest in recumbent posture; regulation of diet and bowels, and frequent copious vaginal irrigations with salt water after removal of tampon. Under this treatment, the patient recovered slowly after seven or eight applications (made semi-weekly). The

improvement was marked; pain in the back and groins subsided and the tenderness of vagina and womb disappeared.

Menses did not return in February. While I diagnosticated the presence of pregnancy, I thought no harm would result from the weekly introduction of a tampon and daily moderate and careful vaginal irrigations. Ordinarily I abandon all treatment when pregnancy occurs; but the parts were still in such a condition as to warrant the conclusion that a continuance of the local treatment would not only benefit the woman, but the ovum in utero as well.

No untoward symptom occurred. There was a steady favorable progress during March, but the menses not returning, and the uterus enlarging, I ceased all local interference for fear of creating an abortion; though the patient would have been only too glad had this occurred; indeed, she solicited its production. So persistent was she in the demand that when I was summoned March 29th, and found her prostrated from vomiting and severe pain in the region of the uterus, I unhesitatingly accused her of having taken medicines with a view to bringing about a miscarriage. She denied it then and afterwards, and later, on an occasion when death seemed imminent, being again urged to confess what she had taken (the hope being held out that, upon a knowledge of the drug employed, means might be secured to save her life), she solemnly, and in a manner that admitted of no further doubt, stated that she had taken nothing and felt deeply grieved at my suspicions. Two or three days after the attack of vomiting and pain, hemorrhage of the womb set in: the os being still closed, but very tender to the touch. Every effort to stop the vomiting, pain, and hemorrhage proved of no avail, all the symptoms continuing unabated to an alarming degree. The only remedy giving relief for a time was morphia subcutaneously administered. Later the hemorrhage was controlled, to some extent, by cold compresses over the supra-pubic region, and in a few days terminated in the characteristic discharge of a broken-up two months' ovum. That is, the ovum was not discharged as a whole, but came away piecemeal. Some of the particles thus discharged were carefully examined and found to be carneous with distinct traces of the villi of the chorion. Eventually the flow became fluidic, rusty in color, and terminated, like the lochia, colorless and transparent.

Throughout all this period, March 29th up to April 25th, vomiting continued. All food, however judiciously selected and carefully prepared, was rejected by the stomach. None of the remedies usually administered under such circumstances proved efficient, thus necessitating feeding by the rectum. By this time emaciation was so great that life was despaired of. Dr. Whittaker saw the patient April 21st in consultation. He made a careful examination. Agreed with me in diagnosis and treatment, and attributed the vomiting to no disease of the stomach, but to

the probable presence within the womb of particles of the blighted ovum and consequent discharge passing over an irritable cervical canal. He suggested curetting and irrigation of the uterus. I argued against the immediate application of this treatment; not because I believed him wrong in his opinion, for I was fully satisfied that the original impetus to vomiting was within the womb, but because the patient was so thoroughly exhausted that I was apprehensive of its result. Besides, I had watched the discharge faithfully and felt sure that nothing of any consequence was left of the ovum. I attributed the scanty flow still present to natural lochia and the previously observed general endometritis. It was my opinion that the vomiting persisted on account of an irritability of the stomach engendered by the continuous vomiting which was established at first through reflex action, by the pregnant uterus. Dr. Whittaker kindly consented to wait; so no change was made in treatment.

Strange as it may seem, the vomiting ceased after the consultation, though the discharge continued for some time thereafter, and the patient has never been entirely free from leucorrhœa since. From this time she improved rapidly, gaining in flesh and strength to a degree never before experienced. Two weeks later, the beginning of May, she was up and about attending to her household duties.

From April 29th to May 8th, there was observed a continuous, well-marked sanguineous flow from the uterus. It resembled the menstrual discharge and was so considered, as it was accompanied by a sense of heaviness and fulness in the pelvis.

Early in June, while visiting a sick child, she confronted me with the remark: "Doctor, I am pregnant, I feel that I am growing larger." I answered: "You must be mistaken, you miscarried six weeks ago and have menstruated since then," and paid no more attention to her assertion.

A few days after that she informed me that she felt life, and an examination corroborated her statement. All the conditions of a four and a half months' pregnancy were evident, and its occurrence consequently dated back to the menstrual period in January.

July 1st I was called to see her. A slight hemorrhage from the womb existed, but no pain. Rest and ergot seemed to control it. After the lapse of a few days, hemorrhage returned more profuse than before. Os closed; child living. Placental bruit and fetal heart not audible. Rest and ergot given as before. Hemorrhage stopped to a degree only, and was never entirely arrested thereafter. Toward the 20th the loss of blood became excessive. Cervix soft, admitting tip of index finger and placenta previa was diagnosticated. Ergot and recumbent posture were persisted in; but a week later it became evident that a miscarriage would occur notwithstanding all my efforts to the contrary. There

were as yet no labor pains; but the hemorrhage continued without intermission, and the conditions again assumed such an alarming character that further delay in hastening delivery would have destroyed all possibility of the patient's recovery. Ergot was then discontinued and chloral hydrate and brom. of pot. given in full doses (ten grains of the former, thirty grains of the latter). Tamponment of the vagina was also instituted. With the dilatation of the os hemorrhage increased; but still no pains. In the presence of these conditions I determined to resort to more vigorous measures. I perforated the placenta with a silver-plated catheter, but its openings were clogged with coagulated blood and the amniotic fluid could not be drained off. This procedure was repeated, but to no purpose. The case becoming desperate, I introduced my hand into the vagina, penetrated the placenta first with index, then following with the middle finger (of the left hand), I seized hold of the left foot of the child, delivering it in short time. The patient recovered without an unpleasant feature in the course of two weeks.

DR. PALMER thought that the case related was not only very interesting, but extremely rare. We could not deny the possibility of an occurrence conforming to the statements of the reporter of the case. Remembering that the placenta is not developed until the end of the third month of pregnancy, and that the decidual cavity is open until this time, it could be understood how the first ovum, situated lower in the uterine cavity, could be expelled from the decidual cavity before the placenta of the second was developed, and without materially hindering the development of the latter structure. The physical appearance and microscopical examination of the expelled product ought to have settled the character of the same, and distinguished it from a false mole.

As regards the vomiting of pregnancy, he would relate a case which illustrated how every expedient may fail to arrest this troublesome symptom, and how we may be forced to the last recourse to save a patient's life.

A young, previously healthy woman had been delivered of her first child by the speaker, was pregnant with her second, and consulted Dr. E. W. Walker. The nausea and vomiting were severe from the beginning, very early in the pregnancy. Salivation was also profuse. The symptoms went on from bad to worse, until foods of all kinds were speedily rejected. No drinks of any quality, not even the most delicate champagne, could be retained on the stomach. The quantity of saliva constantly running from her mouth was so great that several large towels each day were saturated. The various remedies which have been utilized for this condition had been administered by Dr. Walker before the patient was seen by the speaker. He could not recall the order, but the following remedies had been prescribed and faithfully tried: bromide of potassium, oxalate of cerium, carbolic acid, tincture of nux vomica, tincture of iodine, bismuth, atropia (on account of the salivation), etc. Also various expedients in foods, solid and liquid, and drinks, taken in the recumbent posture, all to no avail. Attempts at feeding by the rectum proved unsuccessful, for this channel soon rebelled and the nutrient

enemata were expelled. The patient, all this time losing strength and flesh, was now confined to bed. Dr. Walker at the speaker's first visit thought that nothing would save the patient short of the production of an abortion. The speaker urged further efforts before resorting to this measure, and by common consent he applied to the cervix a solution of the nitrate of silver, waited two days, and no effect. An application of the strong solution of iodine was made, waited two days more, and no effect. The cervix was perfectly healthy in size, shape, and color, the uterus was in normal position for the third month of pregnancy, but it was thought that the use of these remedies topically applied might act as local derivatives and stop a morbid reflex action to the stomach. After failure with them, it was decided to dilate the cervical canal. The lower half of it was thoroughly stretched by the Palmer dilator to the extent of three-fourths of an inch. No effect. Further dilatation through the whole canal, including the os internum, was then done two days following, with no result. Of course, it was understood that this procedure might provoke an abortion, but it mattered not. Things were growing desperate, and if this dilatation did no good in arresting the vomiting, it would be a preliminary step in the accomplishment of the last resort. It was plain now that nothing remained but to provoke an emptying of the uterus, and that if it was not done soon our patient would die. She looked bad, was profoundly anemic, much emaciated, and the heart's action was very rapid. The abortion was brought about. The uterus emptied itself in a few days, when the stomach commenced to retain small quantities of liquid food. No unpleasant effects followed. It was, however, far more than a month until the salivation completely ceased. The patient completely recovered in every respect and has become a robust woman.

DR. GEO. E. JONES was also of the opinion that the treatment of this affection is often very unsatisfactory. He once had a case under treatment who had been treated unsuccessfully by three different physicians; the speaker simply ordered carbonated waters and in forty-eight hours she was well. Afterwards he tried the same treatment ineffectually on other cases. Several times he had good results from Carlsbad salts. As a peculiar incident he related the cases of three sisters who were all pregnant and troubled with vomiting at the same time.

DR. GILES S. MITCHELL said the essayist was certainly to be congratulated in curing his patient so speedily of a specific vaginitis and endometritis. Ordinarily a much longer time is required in the successful treatment of such cases.

Speaker believed that pregnancy could occur in a uterus the endometrium of which was not absolutely healthy. In the case reported, it seemed to him highly probable that the mucus membrane lining the upper uterine segment remained diseased. This furnishes a satisfactory explanation for the low attachment of the embryos. The one expelled first was attached primarily lower down than the one that remained. The premature expulsion was probably due to endometritis decidua chronica diffusa, resulting from the chronic endometritis existing at time of conception. It sometimes happens that the normal congestion of the uterine mucus membrane incident to conception and resulting in the formation of the decidua develops into an endometritis. In the case reported, the inflammatory process already existed in a



portion of the endometrium. Speaker believed that in every case of placenta previa, if the patient's history was carefully examined, it would be learned that prior to conception an endometritis had existed.

DR. WENNING was also at a loss how to explain the escape of the first ovum alongside of the placenta previa of the second. In his opinion the position of the placenta could not have been central, at least the centre of the after-birth did not cover the centre of the internal os. It is possible, however, that the placenta was attached to one side and that after the escape of the first ovum the placenta of the second continued to grow until its outer margin covered the os, thus simulating a placenta previa centralis. As stated by the previous speaker, the placenta is not yet fully formed at the end of the second month and the lateral position of the structure which was to be the after-birth, at this time permitted the escape of the blighted ovum.

Granting the correctness of diagnosis in the case presented, the presence of placenta previa in a twin pregnancy must be considered as an important contribution, for it is a rarity in a double pregnancy. This is readily explained: whilst some abnormal condition of the womb may favor an implantation of a single ovum in the lower segment of the uterus, it must be a rare occurrence for this to take place with two ova, on account of the want of room in this portion of the womb.

The speaker took, however, exception to the statement made by the gentleman who had just preceded him, that pregnancy would cure a chronic metritis. He rather looked upon pregnancy as proof that the inflammatory condition had been removed, or, in other words, conception was not the cause but the effect of cure. He had repeatedly seen instances where sterility existed so long as subinvolution or a chronic endometritis continued, but he looked upon conception in these cases as an evidence that the uterus had again been restored to its normal, or nearly normal, condition by which it was again capacitated for the performance of its proper function.

DR. GILES S. MITCHELL replied that he did not intend to convey the idea that pregnancy cured endometritis, but that it often removed sequences of chronic metritis. He believed that pregnancy was proof positive that the major portion of the uterine mucus membrane was healthy.

DR. JULIA CARPENTER thought it would be interesting to know what internal remedies had been used to allay the vomiting. She had met with marked success in some cases with *inglurin* in tenn-grain doses after eating. In one obstinate case she tried dilatation of the lower part of the cervix, but as other remedies were not discontinued at the same time, it was difficult to state to what the arrest of vomiting could be attributed.

DR. BYRON STANTON said he had been more frequently disappointed in the administration of medicines for the relief of vomiting of pregnancy than in any other disease regarded as amenable to treatment. He has seen failures with all of the remedies usually recommended and has seen the vomiting subside in some cases after all treatment had been discontinued. He recalled one case where the cure seemed to be due to mental emotion. This lady had taken different remedies until she finally became disgusted with medicines and said she would take no more. Two or three weeks later the speaker was called again to attend a sick



child in the same family. He learned that the mother still vomited but would do nothing for it. The child became very sick and the mother inferred that it would probably die, when she was so shocked that the vomiting ceased. Not all cases terminate so favorably. The vomiting is sometimes temporarily arrested, only to return again in two or three months. He saw but one fatal case where a woman was brought home sick in great prostration. Delirium had set in and she was so bad that abortion could not be induced and she died. He did not, however, question the propriety of inducing abortion in some of these cases.

DR. T. P. WHITE inquired if the true means of curing the vomiting of pregnancy by dilating the cervix did not consist in its putting an end to the pregnancy. In his experience dilatation of the cervix to such a degree as to make any impression upon the vomiting always provoked abortion: hence the arrest of vomiting was due to the induction of abortion.

DR. W. H. TAYLOR was inclined to accept the explanation just given. In one case of extreme vomiting, in his practice, dilatation of the cervix was ineffectual. The patient died, having been married only ten weeks. The same treatment applied to a multipara resulted in abortion, after which the patient was well.

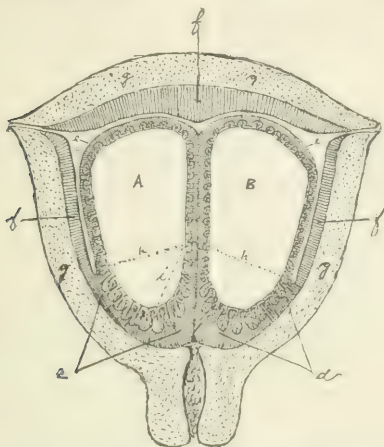
DR. PALMER did not pretend to deny the great danger incurred by provoking uterine contractions where the cervix of a pregnant uterus was dilated, and believed that this danger increases according to the depth of the introduction of the dilator. But there is the greatest variability in this regard in different women, the least thing producing an abortion in one, while another will resist the severest means.

If there is any serious disease of the cervix in pregnancy, local treatment may be carried on in a gentle way with perfect safety. Largely it should be limited to the infra-vaginal face of the cervix. A dilatation of the cervical canal should not be resorted to to abate the vomiting of pregnancy until all other safer methods had been resorted to, and then should be practised gradually from below upwardly. As a matter of expediency, it may be called into use only immediately preceding the employment to the last resort.

DR. ZINKE, in concluding the discussion, said that when he discovered an almost central placenta previa in the miscarriage of the second ovum, he was in a quandary how to explain the escape of the first ovum. There could be no question as to the correctness of the diagnosis regarding the nature of the first ovum, since he had examined the substance microscopically, and found distinct villi. He explained the singular occurrence of the abortion in the following way: Each ovum must have had a separate placental attachment, possibly both in the lower portions of the uterus, as shown in the accompanying drawing. Suppose the left ovum to have aborted first, and, occurring as it did, at the end of the second month—the villi of the chorion still existing in varying degree, all over the embryonic sacs, but more marked where the placenta forms—is there not a possibility, after the first one had disappeared, including both its decidua reflexa and serotina, that the portion of decidua serotina and reflexa of the remaining ovum, which lay in contact with the last ovum, found a ready surface of attachment on the left side of the uterine cavity, to which the aborted ovum previously adhered:

In answer to the question put by one of the speakers, What

had been prescribed for the vomiting? he replied that at first a hypodermic injection was given, which relieved both pain and vomiting temporarily: thereafter the patient was put upon a restricted diet and mucilaginous drinks. The following remedies



A and B, the ova: c, decidua serotina of ovum A; d, decidua serotina of ovum B; e, decidua reflexa; f f, decidua vera; g g, uterine walls; h, represents dotted lines indicating the extent of decidua and villi of the chorion which would have participated in the formation of placenta and decidua serotina had both ova remained in situ. Taking it for granted that ovum B miscarried at end of second month, all that portion of decidua serotina of ovum A, included by the dotted line i, found attachment in the process of its natural growth, as well as through the partial contraction of the uterus consequent upon the loss of ovum B, upon the left side of uterus, the space represented by d.

were subsequently administered in turn without effect: bismuth, oxalate of cerium, ingluvin, tincture nux vom., tincture belladonna, and other remedies. The patient was also fed per rectum. Dilatation of cervix not attempted.

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

*Wednesday, April 4th, 1888.*

JOHN WILLIAMS, M.D., *in the Chair.*

DR. CULLINGWORTH exhibited a thick-walled cyst behind the uterus which lay imbedded in the anterior wall of the cyst.

A report was read on Mr. Sidney Harvey's specimen of Interstitial Gestation, exhibited at the January meeting.

### SCARLATINA DURING PREGNANCY AND IN THE PUERPERAL STATE.

The adjourned debate on Dr. Boxall's series of papers was resumed and concluded.

DR. GALABIN noted the remarkable absence of mortality in Dr. Boxall's cases, but brought forward statistics to show that the general belief in the danger of puerperal scarlatina was not incorrect. The favorable results in Dr. Boxall's series might be explained either as due to the excellent antiseptic precautions or to the mild type of the epidemic. Experience proved that puerperal scarlatina was sometimes mild, where no antiseptics were used; on the other hand there might be much pelvic complication, and Dr. Galabin had twice seen fatal peritonitis appearing during desquamation. Dr. Galabin considered that evidence concerning the masked form of scarlatina resembling septicemia was conflicting. There appeared to be a fascinating simplicity in arguing that scarlatina and septicemia are two distinct specific diseases, the one inconvertible into the other. Yet septicemia was not one disease but a group, comparable rather to all the zymotic diseases together than to scarlatina or erysipelas alone. About twenty microbes had been described as the active agent in different forms of septicemia, which must be defined as including the effects of all germs except the specific agents in named zymotic diseases. Hence septicemia did not represent a definite entity, like scarlatina. In the latter disease again, Cheyne not unfrequently found the common microbes of suppuration in the blood. Dr. Matthews Duncan had shown that, according to the Registrar-General's Reports from London, there was no increase of puerperal fever in proportion to that of scarlet fever or erysipelas; that was strong evidence that scarlatinal poison could hardly produce a disease simulating puerperal septicemia. Dr. Galabin believed that at least the above fact proved that scarlatina was not numerically an important cause of puerperal fever; if it did not account for over five or ten per cent of all cases, it would not be manifest in statistical charts. There was strong evidence of a bacterial relation of erysipelas to puerperal fever, and Dr. Galabin brought forward evidence which tended to prove that scarlatinal poison might produce a disease simulating puerperal septicemia.

DR. HORROCKS quoted reports of the Guy's Hospital Lying-in

Charity which showed the rarity of scarlet fever of the ordinary type in the puerperal state, and he asked how many women were confined during the time that Dr. Boxall's cases were collected. Some of those cases were possibly not scarlatinal or else represented very mild scarlatina. He believed that the incubation was not shortened when infection took place during labor, but inasmuch as the poison then could generally enter the system at once, the incubation began at once, and so the fever developed within a few days after the exposure. He discussed at length the subjects of Dr. Boxall's series of papers, noting authoritative evidence and indicating sources of fallacy.

DR. CAYLEY thought that there was no sufficient evidence that the poison of scarlatina was capable of directly causing septicemia. Cases of scarlatina following operations and of operations on patients suffering from scarlatina had usually done well at the London Fever Hospital. Very few cases of puerperal scarlatina had been admitted into that institution and in two alleged cases, where there were acute septicemic symptoms, diagnosis was doubtful.

DR. CHAMPNEYS testified to the great care with which Dr. Boxall had studied his series of cases, never neglecting to trace the history of each case after discharge from hospital. Dr. Champneys noted that the paper contained the analysis of a series which occurred during one epidemic. Different conclusions would probably be drawn from the record of cases seen in consultation, for the very fact of consultations implied picked bad cases. In other words, series should be compared with series. Dr. Champneys then made some observations on the question of puerperal scarlatina, and criticised the accuracy of Collective Investigation Reports which represented opinions formed by hundreds of men of different views. Dr. Cayley's valuable evidence was unfavorable to the opinion that the septicemic variety of scarlet fever existed.

DR. JAMISON agreed with Dr. Boxall's views; he thought that the best diagnostic difference between scarlatina and puerperal septicemia was to be found in the retina, for retinal hemorrhage was an almost constant occurrence in septicemia and all but invariably absent in scarlet fever. Extreme antiseptic precautions were impossible in ordinary practice, and, fortunately, scarlet fever was neither very readily communicable to puerperal subjects, nor very severe when they took it.

DR. W. J. COLLINS was no great believer in the absolute specificity of scarlet fever, and hinted that a process of evolution might affect the *materies morbi* of specific diseases.

DR. HAYES insisted on the entire distinctness of scarlatina and septicemia, and in his experience puerperal cases were not highly susceptible to scarlet fever.

DR. WEST distrusted theories about the evolution of diseases, and maintained the specificity of scarlet fever. He had seen much of puerperal fever, but had never come across a case which could be traced to the contagium of scarlet fever, a disease with which he might claim to be very familiar. The pregnant, parturient and puerperal woman was, undoubtedly, not highly susceptible to the contagium of scarlet fever. Only two cases, which he related, represented Dr. West's personal experience of scarlatina in pregnancy or after delivery.

DR. CHALMERS stated that, in connection with disturbances in the puerperal condition, he had observed that septicemia in the

lying-in woman was associated with, and apparently gave rise to a variety of pathological conditions amongst those in attendance; again, when scarlet fever assailed the mother, Dr. Chalmers found that it never ran its natural course. He did not believe in the absolute specificity of disease, and did believe in the existence of a puerperal septicemic form of scarlet fever.

The PRESIDENT observed that it must ever be borne in mind that some epidemics of scarlet fever were mild and others severe; that infection from a mild case may give rise to a most malignant form; and that scarlet fever poison may give rise to septicemia, but in a secondary manner. He compared Dr. Boxall's ideas with evidence brought forward from other sources in the course of the present discussion. In the latter case, the patients had been seen often but once or twice in consultation, or under circumstances where thorough observation was impossible, accuracy of diagnosis questionable, or where antiseptic precautions were not employed. In Dr. Boxall's cases the cause of the disease had been observed throughout, and antiseptic precautions thoroughly and successfully carried out. In the course of an epidemic of scarlet fever, that disease had attacked some of the patients in a lying-in hospital where sepsis had been stamped out and in every instance had produced scarlet fever and not septicemia. On the other hand, we learned that when lying-in patients were exposed to septic infection and to scarlet fever poison, septicemia was present in all, whether scarlet fever was present or not. Since the reading of Dr. Boxall's paper, Dr. Meyer, of Copenhagen, had published a report of an outbreak of scarlet fever in the Lying-in Hospital of that town. Twenty-one cases were attacked, yet they all ran the usual course of scarlet fever. In support of the view that scarlet fever poison produced septicemia, not a single case had been noted where this result had been brought about under circumstances where all possibility of septic infection had been excluded.

DR. BOXALL, in reply, first thanked the Society for the attention bestowed on his paper. He founded his diagnosis on a definite chain of phenomena and not on the rash alone. Turning to the comparative immunity of pregnant and parturient women to scarlatinal infection, he stated that, when obstetric assistant at University College Hospital, he visited a recently delivered mother, three of whose children lay in her room ill with scarlet fever, and he caught the fever himself, but the woman escaped. He did not deny that the period of incubation might be prolonged in pregnancy, but showed that evidence in favor of the theory was defective. With reference to the severity of scarlet fever in the puerperal state, Dr. Boxall showed the Collective Investigation Record as evidence of unusually severe cases. He recognized that the cases in his series were of a mild type, with one exception, and stated that, during the severe epidemic, three cases occurred in private patients, two of whom died of the fever. He did not attribute the severe cases to direct inoculation through the pelvic tissues and the mild to ordinary infection; nor did he believe that, of necessity, the two forms represented two really distinct diseases. He reminded the Society that very great variations in the character of the fever were well-known to exist in children, in men and in women neither pregnant nor parturient, and until these varieties were explained, the anomalies which occurred in scarlatina during pregnancy and parturition could not be explained. Turning to the septicemia question, Dr. Boxall maintained that the direct effect of scarlatinal poison was

the production of scarlatina and not septicemia in lying-in women; but the former, like all fevers, was apt to favor the onset of septicemia at a subsequent stage. Coincidence was readily explained, scarlet fever could not protect a woman in childbed, but that such an association was none other than incidental was borne out by the fact that when the septic element was eliminated, scarlatina and not septicemia was the result. The contention of Dr. Playfair, that the modification of individual scarlatinal manifestations was contingent on the antiseptic treatment of the puerperal state rather than on that state itself, was disproved by the fact that, in cases where no antiseptics had been used, similar modifications had been proved to exist. The modification, not absence, of individual symptoms did not amount to masking. Eliminating septicemia, the influence in the puerperal state which really might mask the symptoms, it might be concluded that scarlatina, whether masked or not, bred true and did not produce septicemia. As to prophylaxis, it was wrong to suppose that cleansing the hands was the one essential precaution, for the genital tract did not hold a monopoly for the ingress of scarlatinal poison. Though the precautions recommended in the paper were open to criticism on the score of idealism, they were such as Dr. Boxall had consistently carried out in practice, and though fully aware that their complete adoption in every case was impracticable, they had been put forward by him as embodying the correct principles of treatment. He had omitted from his paper the bacterial question, for the germs themselves were, so to speak, on probation and the exact relation of different organisms to scarlatina and to septic diseases was not very precisely determined.

---

## REVIEWS.

---

LUPUS OF THE CERVIX AND FEMALE GENITALIA. By ISAAC E. TAYLOR, M.D., President of the New York State Medical Association, etc. With illustrations. New York: J. H. Vail & Co., 1888, pp. 24.

In this monograph, which the author read before the New York State Medical Association at its annual meeting last year, five cases of lupus of the female genitals are recorded in detail and illustrated by colored plates of a high order of merit. This careful study is especially valuable in that many gynecologists of extensive experience have never seen an instance of lupus of the female genitals, the affection so denominated by Taylor being considered as simply epithelioma, or a manifestation of syphilis, or tubercular. Taylor has always claimed that lupus did attack the female genitalia and he reiterates in this monograph the reasons on which he bases his belief.

BULLETINS ET MÉMOIRES DE LA SOCIÉTÉ OBSTÉTRICALE ET GYNÉCOLOGIQUE DE PARIS.—TRANSACTIONS OF THE PARIS OBSTETRICAL AND GYNECOLOGICAL SOCIETY. February, March, 1888.

Reports of the meetings of this society appear each month and the numbers before us testify amply to the good work which is



Being done in Paris in the branches of medicine to which the society devotes itself. The paper of greatest interest in these numbers is one by Championnière, treating of the reflex phenomena which frequently follow on operations on the uterus or ovaries. The most unique phenomenon he has noted is the feeling that expectoration is necessary and yet no relief follows the act. Towards the treatment of these troublesome neuroses the author is unable to suggest any addition to our routine measures.

DER KAISERSCHNITT UND SEINE STELLUNG ZUR KÜNSTLICHEN FRÜHGE-  
BURT, WENDUNG, UND PERFORATION, BEI ENGEN BECKEN.—  
THE CESAREAN SECTION AND ITS RELATION TO THE INDUCTION  
OF PREMATURE LABOR, VERSION, AND PERFORATION IN CASE OF  
THE CONTRACTED PELVIS. Contributions by Drs. L. Korn, H.  
Löhman, and J. Präger, Assistants at the Gynecological Clinic,  
Dresden. Edited by DR. G. LEOPOLD, Professor of Gynecology,  
etc., at Dresden. Stuttgart: Ferdinand Enke, 1888, pp. 173.

Towards the solution of one of the burning questions of to-day this series of contributions is valuable. It is through the comparative study of statistics that we will largely be enabled to restrict within its proper sphere the Cesarean section as performed according to modern methods, and the data collected herein under the supervision of Leopold are worthy of careful study and analysis.

The first contribution relates to the induction of premature labor and is written by Ludwig Korn. From September 1st, 1883, to the 9th of December, 1887, out of a total of 5,875 labors in 76 premature labor was induced. The indication in twenty-two instances was the generally contracted flat pelvis, in eight the flat rachitic pelvis, in three the rachitic-scoliotic transversely contracted pelvis, in three the pure generally contracted pelvis, in one, respectively, the transversely contracted and the funnel-shaped pelvis. The maternal mortality was 2.2%, and 78.9% of the children were saved. From a detailed comparison of these figures with those from other clinics the following general conclusions are drawn: In case of the generally contracted flat pelvis with true conjugate not below 7.5 centimetres, and in pelvis without transverse contraction with conjugate not below 7 centimetres, if the patient is seen between the thirty-second and the thirty-sixth month of gestation it is not advisable to await term, but rather to induce premature labor. If, however, the conjugate measures below 7.5 to 7 centimetres, then the chances of obtaining a living child are slight, and if the parents are desirous of a living child the Cesarean section, performed at term, is indicated.

The second paper is contributed by H. Löhman, and concerns the versions performed at the Dresden Clinic from the 1st of September, 1883, to the 20th of December, 1887, the object being to ascertain the lowest degree of pelvic contraction where we may expect through this operation to obtain a living child. In a total of 5,916 labors, internal version was performed 107 times, of which 83 were in cases of contracted pelvis; 4 of the mothers died; of the children, 48 were extracted alive, 8 were asphyxiated but were resuscitated, 8 were extracted dying, 13 were born dead, 7 were dead before operation, 6 died in the few days following delivery, 49 were discharged alive. Of the maternal deaths, only 1 could be charged directly to the operation as performed in the clinic; the mortality, hence, in 80 cases was 1.25%. These cases are fur-

ther analyzed in connection with the specific indication which called for the operation. We cannot enter into the details, but reproduce the following general conclusion: In case of the generally contracted flat pelvis with conjugate not below 7.5 centimetres, and in case of the flattened pelvis with conjugate not below 7 centimetres, where the fetus is of average development, it is advisable to leave delivery to the efforts of nature, and if an operation is called for to resort to version rather than to the Cesarean section. In case the child is not born alive, then, in the event of further pregnancy, premature labor should be induced.

In the third contribution, J. Praeger analyzes 71 craniotomies performed at the Dresden Clinic during four years. During this period, the total number of deliveries was 5,510. In 68 of the 71 craniotomies the pelvis was contracted as follows as regards the true conjugate: In 8, not below 8.5 centimetres; in 45, not below 7 centimetres; in 15, not below 5.5 centimetres. In 62 instances the operation was performed on the before-coming, and in 9 on the after-coming head. In 34 instances the living child was perforated, 47.9%; 2 of the mothers died of eclampsia; the maternal mortality traceable to the operation was *nil*. From such data, the following general conclusions are drawn: Craniotomy performed under stringent antiseptic precautions, offers the best possible chances for the mother, and, even in case of the living child, where the period for the induction of premature labor has passed and no other operation, such as version, is possible, it is an allowable operation over the Cesarean section, since the life of the mother is of far greater value than that of the child. Where the indication is only relative, and by the section we may save the child, in general craniotomy is to be preferred, as carrying with it the least risk to the mother.

Leopold contributes the fourth paper, which contains a detailed analysis of the 23 Cesarean sections performed at his clinic in four years, in 3 instances the Porro operation being called for. In every instance a living child was obtained. The maternal mortality was 8.6%, but the fact is emphasized, and a study of the reported cases justifies the assertion, that neither of the two deaths was the fault of the operator, one of the cases being septic at the time of the section, and the other succumbing on the third day to affections of the lungs and intestines antedating the operation.

The comparative results from the various operations which are analyzed in these papers may to advantage be grouped as follows:

Total maternal mortality:

Induced Premature Labor	2.2%
Version and Extraction	4.8%
Perforation	2.8%
Cesarean Section	8.6%

Mortality from sepsis:

Induced Premature Labor	2.2%
Version and Extraction	0.0%
Perforation	0.0%
Cesarean Section	4.3%

Percentage of children discharged living:

Induced Premature Labor	66.6%
Version and Extraction	59. %
Cesarean Section	87. %

The general conclusions reached by Leopold are that, although

the time is not ripe as yet for the substitution in every instance of the Cesarean section over craniotomy, still, when the parents desire a living child, when the forceps and version are impracticable, and certain necessary conditions are satisfied, then the section is to-day certainly justifiable. The essential conditions referred to are: strict antisepsis, the patient strong and not far advanced in labor, the fetal heart-beats normal in number and in rhythm.

Leopold carefully traces the technique of the section according to the most advanced methods, thus furnishing a most complete contribution to the literature of the modern Cesarean operation. Every practical obstetrician will heartily echo the hope that the day may not be far distant when he will never be called on to sacrifice the living child. As yet, however, owing to the opposition of the parties chiefly concerned, the Cesarean section must remain essentially a hospital operation. When performed there, with due precautions and in due time, other things equal, the maternal mortality should be *nil*. The operation itself is far simpler than laparotomy for the removal of adherent uterine appendages. The secret of success in the Cesarean section cannot be emphasized too often, for the truth is here apparently most difficult to impress: Early operation in a woman not experimented on by forceps and version; exact uterine suture; cleanliness. Laparotomy is to-day deemed justifiable and daily performed for conditions which in nowise risk the woman's life, although they make this life a more or less unendurable one. Craniotomy of the living fetus destroys one life with but slight risk of another. How long must we be forced by lay opinion to destroy the lesser for the benefit of the greater life, when it can be conclusively shown that the Cesarean section, resorted to in time, may with almost absolute certainty result in the saving of two lives? Such is the question which before long must be answered as applied to private practice. Even now it would seem as though the Cesarean section had become an operation not of *choice*, but of *necessity* where the alternative is craniotomy.

E. H. G.

## ABSTRACT.

1. **Guelpa: A New Method of Treating Diphtheria** (Paris: Octave Doin).—The essential of this new treatment is very frequent irrigation of the pharynx and naso-pharynx. The medicament used, the perchloride of iron, has over and over again been tested, and the author admits that his only claim to novelty is the fact that he insists on and practises almost constant lavage of the affected parts. The belief is expressed that diphtheria is at the outset an essentially local affection. By early resort and persistent use of the perchloride of iron irrigation he has been enabled to reduce the mortality to 15%, including cases seen only after the nasal fossæ or the larynx had become involved. He uses the perchloride of iron in solution of 5 to 10 in 1,000. In his experience, the early resort to these irrigations has prevented extension to the larynx. A number of instances are recorded in which this treatment was employed.

THE AMERICAN  
JOURNAL OF OBSTETRICS  
AND  
DISEASES OF WOMEN AND CHILDREN.

---

VOL. XXI. JULY, 1888. No. 7.

---

ORIGINAL COMMUNICATIONS.

---

GASTRO-ELYTROTONY AND THE PORRO OPERATION VS.  
THE SAENGER METHOD OF PERFORMING  
CESAREAN SECTION.<sup>1</sup>

---

BY  
GUSTAV ZINKE, M.D.,  
President of Cincinnati Obstetrical Society.

---

THE obstetrician of the day has to decide which of the three above-named operations will serve him best in guarding the lives of the lying-in woman and her offspring, when, under certain contingencies, it becomes his duty, either by way of selection or necessity, to deliver the fetus through the abdominal wall.

On the 30th of January last, I presented to the Academy of Medicine of Cincinnati, the "Improved Cesarean Section," or "Saenger operation"; at the conclusion of which I referred to the indications for the Porro operation as restricted by the surprisingly favorable results obtained through the former. The point was, apparently, not well taken. The gentlemen present who participated in the discussion, like the profession at large, were strongly divided as to the respective advantages and merits of the several procedures.

<sup>1</sup> Annual Address delivered January, 1888.

It is my candid opinion that wherever such a division as to the true mode of operating prevails, the difficulties and dangers pertaining to each are not thoroughly understood, and the statistics of the results of all of these operations not sufficiently well known. He who will take the time and trouble to examine and compare closely these three different methods and study the principles and indications (imperative as well as selective) for the same, will, I think, be convinced that the suggestions of Saenger are, by far, not only the most scientific and practical, but are also proved to be the most successful and, consequently, the most humane. The problem to be solved is:

*To which of the three methods shall we give the preference, if we have concluded to operate upon the mother, to deliver the child?* To answer this question thoroughly and satisfactorily, I cannot do better than to refer to the conscientious and scientific task performed by our distinguished confrère, Dr. Saenger, of Leipzig. He has solved the problem in a most masterly manner. An attempt on my part to abstract from his work and comment thereon might, I fear, result in the mutilation of an otherwise perfect work. To do justice then alike to the subject and to Dr. Saenger, I have made an effort, though rough and unpolished the result may be, to translate from his book that section which is devoted in particular to the discussion of the topic announced. I do not know whether this has already been done; but if so, it has never been presented at any of the meetings of this Society since I have been a member, so far as I am aware. In the hope that it may be followed by thorough discussion and thus be of profit to us all, I present the following translation as my annual address.

"Gastro Elytrotomy. This is intended to solve the problem, by opening the vagina beneath the peritoneum and above the pelvis: to empty the uterus through its natural os. The operation dates from the time when the opening of the peritoneal cavity was justly looked upon with horror, but has lately been revived in the United States [by Thomas and Skene] with remarkable success." Harris is quoted by Parvin ["Science and Art of Obst.," p. 669]. "Laparo-elytrotomy, after the improved method of Thomas, has been performed twelve times; ten of the operations having been done in the United States and nine of these in Brooklyn and New York. Thomas operated on two

women; Skene on four; Jewett on two; Hime, of Sheffield (Eng.); Edis, of London (Eng.); Gillette, of New York, and Dandridge and Taylor, of Cincinnati, each one." Result: six mothers and children were saved. "Notwithstanding these results and the high recommendation of Garrigues [l. c., I. S. 33], this operation has found no followers in Europe; for it does not offer a complete substitute for the classical Cesarean section, on account of the many insurmountable obstacles that are met with in many cases, as for example in tumors which have taken up the entire vagina. Again, this operation is of great danger to neighboring organs [bladder, uterus, and large blood-vessels]. Finally the mechanism of delivery is, in and of itself, somewhat of an *accouchement forcé*, which easily leads to deeper vaginal and cervico-uterine lacerations and the child cannot always be delivered with the necessary precautions required to preserve its life. Frequently the abdomino-vaginal opening cannot be sufficiently enlarged to permit the exit of an especially large child without some of these dangers.

"Gastro-elytrotomy would, however, be justifiable under the following conditions: a wide, well-drawn-up vagina with its vault above the pelvic rim; a fully dilated os; a soft cervix allowing the introduction of the hand; a small movable child. As to method of delivery, only version and extraction by the feet may be resorted to. The application of the forceps to the head through the abdomino-vaginal cut is inconsistent with the shape of the instruments in their relation to this artificial canal of delivery.

"2. The extirpation of the gravid uterus in toto, through the abdominal cavity [laparo-hysterectomy Cesarean totalis] can likewise not be taken as a substitute for the classical Cesarean section, and is only to be looked upon as an operation from a gynecological point of view; especially does it belong to the latter, when extirpation of the entire uterus is indicated. Otherwise, if we give up the uterus and its appendages, it is but one step from the Porro-operation to total extirpation.

"The cases of forcible tearing out of the puerperal uterus [Schwartz: "Tearing of the entire Uterus in the Period of Placental Delivery by a Midwife without Death." *Arch. f. Gyn.*, XV., 1] have shown that even this barbarous and uncalled-for procedure has been followed by recovery. Why not the well-



planned operative removal of the whole organ, when it is only technically a little more difficult than the supra-vaginal amputation!

"In extirpation of the non-gravid uterus, be it through the abdomen [Freund] or through the vagina [Billroth, Czerney, Schroeder], it is a well-established fact that drainage of the secretions through the well-kept-open Douglas pouch is a matter of no little importance. We certainly are indebted to Bardenheuer for maintaining this principle; the favorable results obtained through it would justify this. If, however, he earnestly recommends, instead of the Porro operation, the extirpation of the healthy uterus for the mere sake of better drainage, it is a recommendation that far exceeds the fixed aim of the accoucheur, and, imputatively, charges art to do that which has been committed through sheer ignorance and boldness.

"We can only think of the extirpation of the entire gravid uterus [in the broad sense of the term, from the beginning to the end of gestation] where the removal of the entire organ, in and of itself, is indicated; as by tumors of the body and neck of the uterus, but mainly by carcinoma of the cervix.

"Cesarean section, up to this time, always offered the most lamentable prognosis in these cases; for, if the woman did not succumb through infection of the uterine wound and abdominal cavity by the usual presence of the fetid discharge from the cancerous cervix, she would sooner or later die helplessly of the general disease. To avoid the Cesarean section the cancerous masses were scraped from the cervix and this was, in reality, to be preferred, since it was occasionally followed by saving the life involved. Under any circumstance, there is a risk of violently lacerating the parts implicated, which may precipitate the fatal issue through complicating puerperal diseases. The accouchement forcé, in carcinomatous stenosis of the cervix, is always a necessity, and we may agree with Harris, who gives preference to Cesarean section in stenosis not due to malignancy. Harris says [AMER. JOUR., etc., April, 1881]: 'It is very seldom that any form of cervical stenosis, except cancerous, will be found to act as an absolute preventive of delivery through the pelvis. It is possible for inflammatory induration to constitute a condition much more dangerous to overcome by hysterotomy [incision of cervix] than gastro-hys-

terotomy [Cesarean section], and I believe that in such cases the latter should be preferred.'

"The induration of the neck here referred to, depends mainly upon syphilis. It is certainly perfectly rational, under these circumstances, that the existing pregnancy is not a factor against extirpation of the entire uterus. Whether we are to consider the life of the child, and not operate in the early months of pregnancy if the cervical carcinoma be then discovered, or whether to postpone the operation until the end of gestation, has never been discussed. In deciding this, we must consider that in the earlier months of pregnancy a much better prognosis can be given in the vaginal method of hysterotomy. Even if the child be mature, if the case is otherwise operable, we may first remove the cancerous mass, then deliver *per vias naturales* and conclude with *extirpatio uteri puerperalis* through the vagina. In case this, too, should fail, it becomes necessary to combine Freund's operation with Cesarean section, and under such rules as have been heretofore laid down for the non-puerperal organ; as for instance, the trimming away of the vaginal portion of the neck *per vaginam* before the uterus is removed [according to Breisky-Rydygier], in which case it will be necessary to control the excessive hemorrhage from the incised uterus, which always occurs.

"Although this operation had been performed but once, and with a fatal result (S. I. S., 41 Ann.), Spencer Wells ("Amputation of the Gravid Uterus with Cancerous Cervix." *Med. Times and Gaz.*, Vol. 11, 1881, No. 1,635, p. 523<sup>1</sup>) obtained a cure in a case seen in consultation with Playfair and Graily Hewitt. In the majority of instances, however, the radical operation would be too late.

"Bardenheuer also claims to have removed the entire pregnant and fibrous uterus in such cases where other operators were satisfied with supra-vaginal amputation, and did so, he claims, for the purpose of better drainage. The pros and cons of this method I cannot further consider here, but wish to call attention to the splendid results, even to saving the offspring, which have followed the hitherto more simple method.

"The suggestion of Frank, to form a total inversion of the stump after the supra-vaginal amputation, and to tie the

<sup>1</sup> At the time of this correspondence patient was on the sixth day after the operation.

sutures in the vagina, as well as to favor union of the inner and serous surface of this inverted infundibulum, by several catgut sutures from the abdominal cavity, is also recommended by Wasseige in Porro's operation.

" Finally, in cases where Cesarean section is indicated on account of *fibroma colli uteri*, total extirpation is hardly to be admitted, even if possible ; for it is difficult to see how the removal of the entire uterus, together with the tumor, can be accomplished without injury to the neighboring organs (the bladder, rectum, and ureters), though the operator be skilful and fearless and subsequently repairs the injuries inflicted by the immediate introduction of sutures. But notwithstanding all this, cases may occur (compare those of Storer and Zweifel) in which these dangers cannot be obviated even by perfect operative skill.

" The total extirpation of the infected uterus may be questioned when the general condition of the patient is not too grave.

" 3. The technique of the Porro operation per se, has, since its publication by its author, made great advancement, which must be acknowledged even by the most rigorous opponent.

" Alongside of the extra-peritoneal treatment of the uterine stump, analogous to the method of treatment of myoma operation, the dropping of the stump into the cavity was instituted and practised in five cases by Litzman, Taylor, and Fornari ; G. Veit in two cases, of which the second, published by Levis, is the only one that terminated favorably. That the dropping of the stump has been attended so often by failure heretofore, is attributed, in part, to infection (mostly from the open cervix) and also to neglect of the principle of a firm seroso-serous suture of the stump, in connection with imperfect arrest of hemorrhage.

" Since the secondary hemorrhages are always to be apprehended from the stump of the non-pregnant womb, is it not more prone to occur in the puerperal uterus ? From this cause Winkel lost two cases operated upon after the manner of Schroeder.

" The result would have been better, had hemorrhage been controlled by careful acupressure or additional sutures, as well as by uniting broadly the surfaces of the wound with deep stitches, avoiding a mass of ligatures ; and by the final bring-

ing together of the tucked-in peritoneum over it by close superficial sutures. G. Veit's<sup>1</sup> second case, in which the procedure was similar to this (excepting the seroso-serous sutures) is offered in proof of the above.

"To avoid the care of the stump in the abdominal wound, other propositions have been made, some by Porro himself. These are:

"1st. Artificial inversion of the uterus, after removal of fetus by Cesarean section, and amputation of the same in front of the vulva.

"2d. Opening of the posterior cul-de-sac, after Cesarean section has been completed, then inversion and fastening of the stump of the uterus in the wound of the vault of the vagina thus made. (Wasseige.)

"3d. Artificial inversion of the stump into the vagina similar to the one of the *ligamenta lata* after the manner of Freund.

"To accomplish these suggestions technically, is certainly not attended by serious obstacles, with the exception, perhaps, of the second; even its most formidable enemy, infection, can be guarded against by careful disinfection of the vulva and vagina, in which the stump will lie, either through constant irrigation or well directed iodoform dressing. But from our standpoint we must here maintain, in reference to this "inversion method" what has been said in regard to the dropping of the stump into the abdominal cavity.

"Finally, concerning the technique of the true Porro operation, the process resorted to by Fehling in his second case, and described by Bayer, in which he employed the new *écraseur* of Billroth to take care of the stump, and the well-known method of hemming in the peritoneum, in connection with chloride of zinc treatment of Hegar, may, at present, be looked upon as the best and most advanced.

"Whether or not the hitherto observed disadvantages of the operation can be avoided, is to be questioned, since many an operator will not be in possession of the necessary high degree of technical skill. The instruments, certainly, may be more simplified, inasmuch as *écraseur* and tourniquet can be substituted by the elastic ligature (Silvestri, Franzoli, Hegar), also,

<sup>1</sup> "Beitrag zur Statistik d. Kaiserschnitts mit Excision d. Gebärmutterkörpers" u. s. w., von Dr. Levis, C. f. Gyn., 1881, No. 9.

instead of chloride of zinc to dry up the stump, salicylic acid (Fehling) or benzoic soda (Werth) can be used. Furthermore, other perplexities may arise:

“*a.* By removal of the uterus.

“*b.* By fixation of the stump.

“*c.* By after-treatment.

“*Ad a.* That serious results may follow when one is forced to leave behind the ovaries or part of them, is acknowledged by one of Porro's most decided advocates (F. Levy). Porro and Payretti had to leave part of one; Spaeth, both ovaries entirely, in the abdominal cavity. The dangers in these cases are those of extra-uterine pregnancy, hemorrhage in the ovaries with rupture of the hematoma, and fatal bleeding, or the development of intra-peritoneal hematocele; likewise, hysterical affections would be unavoidable. Of course, the ovaries may be removed subsequently.

“In consequence of an amputation of the womb low down within the cervix, there may be undue tension by the stump upon its site of fixation, and the reverse may obtain, viz., tension upon the stump by the ligatures left in situ for the purpose of constriction. By rapid repair we observe deep central contraction of the funnel-shaped stump, involution of that portion of the stump pointing toward the pelvis till it becomes finally detached from the abdominal wall under pain, hysterical difficulties, symptoms of intestinal occlusion, etc., and at last formation of ventral hernia.

“Too high an amputation of the uterus, so that a portion of the Cesarean wound comes within the stump, would encourage entrance of secretions from the wound and contents of the cervix into the abdominal cavity. The same danger is imminent in amputation of the uterus after rupture of this organ.

“*Ad b.* If during the operation the stump is not sufficiently constricted and fastened in the abdominal wound, bleeding will be the result, or it may slip entirely out of the ligature; on the other hand, should the wire twister, chain écraseur, or even the elastic ligature be drawn too tightly, there is great danger of cutting-in or through the soft uterine parenchyma with the same results. Again it is possible that the material used for constriction may break or slip off the stump. If we pass the needle through the stump, so as to tie it on both sides, a per-

manent cervical fistula may remain, an accident which frequently occurs after the crust of the stump drops off.

"After the operation the stump, in consequence of involution, may slip from the constriction apparatus; serious and fatal hemorrhage (Wasseige) or septic peritonitis (Chiara) are the consequences. By ligaturing with silk or catgut, the slipping of the stump would be more probable and more dangerous. Even with the Hegar method of hemming in the edges of the stump, tearing away is apt to take place before adhesions to the abdominal wall have permanently formed. By the constantly necessary successive tightening of the ligature of the stump, its now soft, friable tissues may easily be cut through. The abdominal wound, too, may gape in the direction from the stump. (Riedinger.)

"*Ad c.* The result depends, first upon the prevention of the dangers noted of the operation and after-treatment; second upon the presence and absence of primary and secondary infection.

"By primary infection, we understand one which began *intra partum* before the operation. Much will depend upon whether infection is locally circumscribed or general, as well as to what degree either exists. The importance of the local infection depends upon its site, whether it be in the body or neck of the uterus. It is evident that, if the body is involved and the neck free, general infection may be avoided by taking away the body of the uterus. If, however, as is often the case, the infection resides in the neck, then removal of the corpus uteri and the leaving of the infected cervix is no safeguard against the spread of the infection.

"Hereby is indicated what the Porro operation may accomplish in the presence of an infected uterus.

"If, however, we are dealing with a putrid disintegration of the ovum within the cavity of the womb without injury to the neck, but little putrid matter can be absorbed so long as the coverings of the ovum furnish a wall of protection; by placental decomposition, physometra with disintegration and separation of the membranes, a septic endometritis may exist with sapremia or it has already come to a septic metrophlebitis, and metrolymphangitis at the placental site. If now the uterus is amputated in such a manner that none of its contents escape into the abdominal cavity, and if the stump with its cavity,



cervix, and vagina be energetically disinfected, then the source of infection is disposed of with the removal of the uterus and recovery may follow. That it must have been in the successful cases of P. Muller and Ramello; while in the case of Hausner, it was impossible to avoid the flowing of the putrid amniotic fluid into the abdominal cavity; add to this, that a portion of the umbilical cord was included in the stump, the fatal result that followed was unavoidable. But, if the tissues of the neck, and its surroundings, or the vagina be attacked with septic processes, then the *amputatio utero-ovarica*, as the case of Tarnier will show, only aids the spreading of infection, inasmuch as it plants the infected neck in the abdominal cavity.

"Now a total extirpation of the infected uterus on account of the grave general condition is all the more contra-indicated, since circumstances will not permit an aseptic operation; nothing then remains in these cases but to perform the classical Cesarean section, in connection with the utero-parietal suture, because it admits the open treatment of the uterus and thus renders it possible to control infection.

"Before the introduction of Hegar's method in connection with the elastic ligature, up to the present, the best and most simple modification of Porro's operation, the danger of secondary infection from necrosing remnants of the stump was considerable, and will always remain greater than in the non-puerperal uterus. The entire stump or the crust may slip away, induration of the stump is hardly ever complete, and thus disintegrated masses may gain access to the peritoneal cavity between the stump and the abdominal wall, thus a peritonitis may be induced.

"The greatest number of deaths have been caused by septic peritonitis. The rest of the fatal issues may be mentioned in the order of their frequency as follows: septicemia, collapse [shock, asthenial hemorrhage, tetanus and emboli of the lung]. The extra-peritoneal treatment of the stump is necessarily followed by a slow period of recovery in Porro's operation. One to two months, and some cases are known where four and five months were required for a cure.

"Fehling and Bayer's patient was dismissed on the fifty-sixth day. If the ideal of primary union in the uterine wound could be secured through the suture, recovery would be obtained in

a much shorter time, and the after-treatment be, by far, more simplified.

"We have still to dispose of another strongly-urged advantage of Porro's operation; namely, sterilization. The operation is only perfect in the total removal of the ovaries. If only small pieces of them remain, it is incomplete and the previously mentioned complications may develop. The removal of the wounded puerperal uterus necessitates the co-removal of the ovaries; sterilization is not the direct cause for amputatio uteri-ovarica but the reverse. Porro's sterilization does not at all fortify itself by castration, whose main object it is to take away diseased ovaries, or healthy ones, when no other resort remains to cure serious uterine or other affections. An adherent of the classical Cesarean section might, for the same reason, be tempted to take away the ovaries and permit the uterus to remain.

"Whether we should concede to a woman, who has repeatedly been delivered by Cesarean section, the right to decide for herself whether or not she wants to be sterilized if another operation should become necessary, can certainly not be answered in the negative. Thus the operator would have at his disposal two methods: bilateral castration, or the double ligature and division of the tubes [Blundell, Lungren].

"Upon the suggestions of Frorie and Kocks, the uterine openings of the tubes might be destroyed by the actual cautery through the uterine wound. Only when it is evident that union of the wounds is not apt to occur in cases of repeated Cesarean section and consequent loss of vitality, especially thinning of the uterine wall to an abnormal degree, amputation of the womb and ovaries might be indicated, as was successfully done, for example, by Werth, in a case operated upon twice after the old method.

"How surprisingly favorable the results of repeated Cesarean sections are, may again be seen by Lungren's latest statistics of such cases [according to Churchill, Stoltz, and Harris]: *upon 48 women, with 119 operations, only 8 deaths—6.833, or 1 death in 15 operations!*

*"How can we, in the face of such results, still think of substituting the Porro operation for Cesarean section?"*

"According to Levy [l. c. p. 339], the removal of all the internal genitalia should be the most radical means to cure an

osteomalacia prompting the operation. If this be corroborated, the Porro operation would constitute, as does castration, a direct curative aim. Up to the present time, only one operator [Forchier] has taken notice of this [*Lyon Méd.*, 1879, July; *C. f. Gyn.*, 1880, No. 8], and he states that the woman he operated upon, again complained of pains in the pelvic bones after a lapse of five months. A radical cure of osteomalacia, by means of the Porro operation, is rendered improbable because it also occurs in men who are obliged to live in certain localities, all of which seems to point toward an ectogenous etiology. All that might be secured through sterilization is a milder course or momentary standstill of this disease. In former years cures, though very rare, have been reported. Pregnancy rather promotes osteomalacia."<sup>1</sup>

The Porro operation was suggested at a time when the blessing of Listerism commenced. At any other time, it would not have made such rapid strides.

Not one of the advantages claimed for it have been absolutely verified: death, the result of hemorrhage and exhaustion; shock and tetanus, sepsis and peritonitis, occurred as frequently as by Cesarean section. The rate of mortality [Harris] is alike in both procedures.

It is noteworthy that the "Berlin School" has not, as yet, a single Porro operation to show [Schroeder, "Lehrb. d. Geburtshilf.," Vd. Aufl., S. 359, VII., S. 360]. "Schroeder (p. 64) further says that the Porro operation is objectionable because the removal of the uterus and ovaries maims the patient to a degree not justified by the indication for the operation. Because a woman may conceive but cannot be delivered per vias naturales, is, in his opinion, no reason why the whole internal genital organism should be extirpated, but that it should be our aim to obtain such improvements in the prognosis of the Cesarean section that women upon whom the operation is to be repeated may have the best chances of recovery."

"Frank (p. 65) depicts very drastically the more distant consequences of the amputation of uterus and ovaries, namely, the sexual life of the woman and the human family in general. That the woman is to be sterile is, in his opinion, the darkest

<sup>1</sup> Winckel, *M. f. Gebkde*, Bd. 23, S. 337. Litzman, "Formen d. engen Beckens" u. s. w., 1861. Rindfleisch, "Path. Gewebelehre," 4 Aufl., S. 535.

spot in the operation. With the uterus the ovaries are lost, menstruation ceases, but congestions in other localities, vertigo, headache, palpitation, etc., are not wanting. Sexual impulse disappears—a fact he invariably observed in women in whom the uterus was removed during castration. Daily she is reminded of her unfitness and eventually discontent destroys domestic happiness. He cannot agree with the opinion of Spaeth, who maintains that the loss to the population of the “offspring of mothers, who have survived Cesarean section, is very little. Many an insignificant man with a quadrangular head has played a great rôle in history. General, minister, and professorships were held by them, and by their usefulness served humanity more than many a handsome, well-built, good-for-nothing fellow.” To estimate the loss to posterity, by a woman thus sterilized, as very little, is to calculate with factors not given; but if she remained in possession of her fertility, we have examples—reaching up to the Empress herself—in which this factor might become of decided importance. “*To preserve the ability of childbearing, may, under circumstances, become the problem of the operation which Cesarean section only can solve. But most of Porro's followers regard the operation as one that cannot be improved upon at all.*”

“If now in conclusion I admit, notwithstanding my determined advocacy of the classical *sectio Cæsarea*, that there are certain indications in which the Porro operation seems to deserve preference upon technical grounds, I am still constrained to declare myself against a point made by Harris. He thinks that because in Milan, Vienna, and Paris, where the classical Cesarean section was nearly always attended with unhappy termination, the new method, by its results, had conquered the old as a hospital operation. The results obtained in private practice in America are so extraordinary that the new method had yet to show a better success; for this reason the old and simpler method should be resorted to in city and country practice. But the former difference between hospital and private practice has been abolished by the era of antisepsis. The obstetrical and gynecological clinics in Germany, with their generally superior hygienic arrangements and constantly decreasing puerperal mortality, offer conditions equally favorable to those in the city practice and decidedly better than in the country where practice is frequently not only of a character

against all hygienic rules, but also laborious in consequence of primitive and otherwise indigent surroundings. Harris, in a few and fitting words says: "Let the Cesarean operation be performed, under carbolic spray, the abdominal cavity thoroughly cleansed from blood and amniotic fluid; the uterine wound, if need be, closed with silver wire; let a glass drainage tube be introduced, and the parts be dressed according to the plans of Keith and Lister, and we should expect, in this country, to save more cases than have been done, in proportion, in any European hospital under the Porro method" (l. c., AM. JOURN., 1881).

"If these results can be obtained through antiseptis and its consequent improvements in the classical Cesarean section, it is difficult to comprehend why the same could not be achieved in our institutions.

"Hence I hold that the Porro operation is indicated:

"1st. When the discharge of lochial secretions is rendered difficult or impossible per vias naturales, *i. e.*, by stenoses and atresiae of the cervix and vagina, or by tortuosity and compression of the soft obstetric channel, due to a tumor not belonging to the uterus.

"2d. By pregnancy in the closed-up half of the *uterus bicornis*, in which delivery is preferably effected by establishing an artificial opening towards the open half. (Strictly speaking, this is not a true Porro operation, since the remaining half of the uterus may be again impregnated.)

"3d. When infection of the *corpus uteri* is evident.

"4th. After repeated classical *sectio Cesarea*.

"5th. By serious general osteomalacia (?).

"For the first three indications, the extra-peritoneal; for the last two, the intra-peritoneal treatment of the stump would be indicated.

"Thus I believe to have furnished that which pertains to the Cesarean section and that which belongs to the Porro operation and *gastro-elytrotomy*.<sup>1</sup> In the eighteenth century the classical Cesarean section passed through a period of discredit only to be resurrected. Let us hope that it may again outlive the crisis brought upon it by the competition of the Porro operation. May the classical Cesarean section come out of this in its really classical perfection."

<sup>1</sup> Words in italics my own.

SOME OBSERVATIONS ON LACTATION.<sup>1</sup>

BY

G. WYTHE COOK, M.D.,

Washington, D. C.

WITHIN recent years, much progress has been made in preventive medicine. The causes of disease are being sought for with great industry, and the homely proverb, "an ounce of prevention is worth a pound of cure," is a most inspiring theme to the modern sanitarian. With a view of pointing your attention in a direction which I think has been too much neglected, I will submit some observations on the subject of lactation.

That a full flow of good milk from the mother's breast is necessary for the proper alimentation of the infant goes without saying. That it is often deficient is within the observation of every physician, and the multitude of infant foods with which the market is flooded, and the samples which are being continually thrust upon us with their advertisements and certificates, vaunting them as equal, if not superior to, mother's milk, fully attest the fact that something is wrong with the lacteal secretion in mothers.

The mammary gland is a strikingly peculiar organ, remaining in a state of perfect inactivity for a lifetime unless pregnancy and childbirth should supervene. But if pregnancy should occur, we witness a remarkable evolution in the gland. Its vascular supply is increased, it enlarges and becomes tender, and in primiparæ the areola loses its pinkish hue, becoming of a dark brown color. Within the gland, the "alveoli enlarge and the contained cells undergo rapid multiplication. And at the commencement of lactation the cells in the centre of the alveolus undergo fatty degeneration, and are eliminated as colostrum corpuscles."<sup>2</sup>

This organ, which had remained in a state of absolute quietude before pregnancy began, has during the period of gestation

<sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, February 3d, 1888.

<sup>2</sup> Gray's Anatomy.



developed into an actively secreting organ. With this complete provision on the part of nature for lactation, why is the secretion of milk so often deficient? Putting aside those cases which would ordinarily be considered exceptional, as not included in the present inquiry, I think the difficulty will be found to lie either in the failure to give proper attention to the nipple, in the time of the application of the nursling to the breast, in the food and digestion of the mother, or in a want of *earnest* inclination on the part of the mother to suckle the child. The last is a most deplorable condition, for it is like robbery to deprive the child of its natural and rightful food.

In the primipara, it is necessary to give some attention, in the latter months of pregnancy, to the preparation of the nipple. Systematic daily traction with the fingers should be practised upon the nipple, and if it be small and depressed, it is especially necessary that suction by the nurse or some young animal should be persisted in. And dilute alcohol or some astringent lotion should be applied in order to harden the tender skin of the nipple, that it may be in good condition when the nursling is placed to the breast. I think this preparatory treatment of the nipple is generally neglected, and as a consequence there is frequently an eroded or cracked nipple that renders suckling so extremely painful to the mother that she dreads the time when she must apply the child to the breast. The intervals between the nursing periods are made so long that the breast has become over distended, the child can with difficulty keep the nipple between its lips, and the mother suffers such intolerable anguish that nursing, which should be to her a most blissful duty, becomes an agonizing burden, and as a sequence the child is illy nourished, and the mother suffers and suffers (and who can say how long she will suffer?), for she is almost certain to have a mammary abscess and a permanently crippled organ.

When shall the child be applied to the breast? In regard to this the physician usually dismisses the subject with a few general directions, leaving the whole matter to the discretion of the mother or nurse. This I believe to be a serious error. I think that explicit and positive directions should be given and daily inquiry made to ascertain if those directions have been carried out. As soon after the delivery as the mother has had time to rest a little from the fatigues of labor, not later than

four or five hours, the nipple having been first thoroughly cleansed, the child should be put to the breast, and this is best accomplished by placing it parallel with the body of the mother, she lying upon the same side as that of the breast to be suckled, so that the nipple falls easily within its mouth, at the same time observing that its breathing is not interfered with. The mother should gently squeeze the base of the nipple that some of the milk may be injected into the child's mouth and the act of suckling encouraged. The object of this early application of the child to the breast is twofold. First, the child can be more easily taught to nurse at this period than it can if longer time has elapsed, and while the breast is soft it can more readily take the nipple in its mouth than it can after the breast has become engorged. Second, the cells which have degenerated into colostrum corpuscles must be removed that the secreting surface may be free to produce the necessary pabulum, and the act of suckling promotes the secretion of milk. If the putting of the child to the breast is delayed until after the "milk fever," much difficulty will be experienced in inducing the child to nurse, because it will have lost in a measure the disposition which it had at first to suck whatever was placed between its lips, it having been supplied from a spoon with sweetened water and various "teas" to quiet its demands for nourishment, and the breast having become more swollen and tender, the nipple is less easily grasped and the mother suffers more than she would have done had the child been placed at the breast earlier, and she is less able to exercise the patience necessary to teach the child how to nurse.

How often should the child be applied to the breast? This is generally done in a sort of haphazard way, without any regard to regularity, often to the detriment of both mother and child. I think that *definite* directions should be given that the new-born babe should be placed to the breast, during the day-time, at every interval of two, or, at most, three hours; at night, less frequently, at about four hours' interval. This longer interval at night gives the mother an opportunity for necessary sleep, and the child is taught good habits from the beginning. By a disregard of these little details as to regularity in nursing, the efficacy of the mammary gland is impaired, and there is a deficient milk supply, much discomfort

is stored up for the mother, disordered digestion awaits the child, and merited annoyance comes to the physician.

Mrs. H., mother of four healthy children, was delivered of her fifth child, a plump, well-developed boy, in November, 1884. I did not anticipate any trouble with the lacteal secretion, as the breasts were well-developed, and she had nursed her former children without difficulty. The flow of milk came on promptly, and, while it was not abundant, seemed to be sufficient. She had a good getting up at the expiration of ten days, and all promised well. A fortnight later I was called to see the child, and found it fretful and feverish, with an inflamed mouth and troublesome diarrhea. I was informed that it had had an attack of "*colic*" the week before, for which the nurse had given it various "*teas*." The child seemed to have lost its appetite, and with difficulty could be induced to nurse, and in consequence of the worry and fatigue the mother had undergone, and the failure of the child to nurse, the secretion of milk was very much diminished. The child preferred to take the warm tea from a spoon rather than to draw the milk from the breast. It finally refused altogether to take the nipple, and, as a matter of course, the lacteal secretion ceased. It is not necessary to detail all that happened to the child—it is sufficient to say that after a very protracted illness, during which it became so much emaciated as to present the appearance of an old, dried-up mummy, to the surprise of everybody it recovered, and is now a healthy, robust child. I attended Mrs. H. again in April, 1886, when she was delivered of a well-nourished girl baby. Thinking there might be some difficulty in nursing this child, as the milk had disappeared so soon after the former accouchement, I was very particular to inquire as to the qualifications of the nurse who had been engaged for this time. "Aunt Jane" was a jolly, loquacious old woman from "York State." She had had much experience, having been engaged for many years as a general as well as monthly nurse. She was full of anecdote, and kept all about her in good humor. Her cardinal principle, as announced by herself, was to "do just what the doctor ordered;" so I thought I could trust her, and felt comfortable in the belief that I could rely upon the nurse. But, alas, for human frailty! "Aunt Jane" was meddlesome. She carried a little bag, in which were stored herbs from which to make the various "*teas*," which in

her wise judgment were so necessary for young infants. But, worst of all, she was a "sugar teat" fiend. As soon as she had an opportunity, she immediately thrust one of those villainous things into the child's mouth. She gave it tea from a spoon, and supplied it with milk from a bottle.

In due time the milk came in the mother's breast, but the flow was rather scanty; and as "Aunt Jane" had decided that the mother should not nurse the child, it was not long before the secretion ceased. The mother was an amiable, unresisting person, and yielded with but faint demur to the dictation of the wilful nurse. It was not long before the child's digestion was completely upset, nothing agreed with it, and, after a miserable existence of about four months, it died of starvation. The facts respecting "Aunt Jane" were detailed to me after the death of the child. "Aunt Jane" herself has since died, and it would be quite consoling could we think that with her had perished the last of her type. But her counterpart still remains to plague us. Will the Training School for Nurses eradicate her?

Having had this experience with Mrs. H., you can imagine with what solicitude I was filled at the suggestion that she was probably pregnant again. In June of last year, she was delivered of another girl baby, which was well-developed and healthy in every respect. I was greatly concerned about the milk, and was afraid there might be none. I was determined to see what would be the effect of persistent application of the child to the breast, and was gratified when the flow came on as previously. I was heartily seconded in my efforts in this case by the nurse (a good old colored woman), as well as by the mother, and we were rewarded by a sufficient quantity of milk. The child has had uninterruptedly good health, and is at this time plump and vigorous.

There is a growing tendency with many mothers not to nurse their children if there is the slightest pretext upon which it may be omitted. The history detailed above warrants me in saying that notwithstanding there may have been a failure in the milk previously, the new-born child should always be put to the breast, and a most determined effort made to induce and keep up the flow of milk, and in the vast majority of cases, well directed effort will be rewarded with success. There are a number of cases reported in which continued suction upon

the nipple has induced a flow of milk in barren women and in virgins, even in women who have passed the child-bearing age, and, stranger still, in men. These facts should afford us much encouragement, and we may expect as good results in the recent mother.

While regular and frequent applications of the child to the breast are necessary for a good flow of milk, there is a most reprehensible habit that some mothers have of nursing the child whenever it cries or seems the least fretful; and, again, some will lie, with the child on the arm and the nipple in its mouth, all night long, a most pernicious procedure. These make bad babies, destroy the mother's rest, and exhaust her strength.

The diet of a nursing woman should be generous and wholesome, rejecting such things as her experience has taught disagree with her. Her digestion should be promoted by the aid of tonics when necessary, and a little wine or malt liquor, according to her previous custom. I beg leave to make one suggestion here, and that is that our bread is very much deteriorated by the modern process of making very white flour, from which most of the inorganic ingredients are removed. With the exception of water and the other inorganic materials, the important ingredients of the milk are manufactured from the blood in the mammary gland itself, and if these inorganic materials were more abundantly supplied than they are in the very white bread we use, a better supply of them would be furnished for the child and a freer flow of milk might be obtained, for it is a well-known fact among dairymen that the off-fall, or bran from grain, when fed to cows, will produce a better and more liberal supply of milk than any, other than green food. This may be taken as a pointer in the direction of using the brown bread which is made from unbolted flour, in cases where there is a deficiency in the lacteal secretion.

I think that, with due attention to these little details, much distress will be avoided, and with a mother who *may* nurse her child, give her proper food, keep her mind and body healthfully active, apply the child to the breast at proper intervals, and there will be opened an unfailing fountain of nutrition that will conduce to the health of both mother and child.

## DIVISION OF THE FUNIS DURING FORCEPS DELIVERY.

BY

JNO. S. COLEMAN, M.D.,

Augusta, Ga.

IN the afternoon of January 27th, 1882, I was called by Dr. W. W. Battey, of Richmond Co., to see a patient with him. The woman, a negress, Ilpara, had been in labor for forty-eight hours in the hands of an ignorant midwife.

Upon making an examination, I found the head engaged in the superior strait L. O. A., and the left foot projecting into the brim slightly beyond the ankle. Also a firm hard tumor, feeling like an exostosis, pyriform and apparently about the size of an English walnut, in the median line and just below the promontory of the sacrum. I exerted all warrantable force in the attempt to push up first the head and then the foot, but could not dislodge either. I now placed the patient in the genu-pectoral position, and with great difficulty succeeded in forcing the foot above the superior strait. Her position was changed to the dorsal decubitus and Barnes' forceps applied.

The locking of the blades required considerable effort, due, as I then thought, to the impingement of the second blade against the tumor. The delivery was accomplished with ease and without damage to the perineum. Dr. Battey firmly compressed the uterus after Credé. A teaspoonful of Squibb's fl. ext. ergot was administered. The child, a male, was still-born, was poor in flesh but of large frame. Sprinkling with cold water, and artificial respiration steadily continued for some moments, caused him to breathe regularly. The child all this time was upon his right side, and removed from his mother far enough to escape being drowned in the pool of amniotic liquor and blood.

I am never in a hurry to sever the umbilical cord, and therefore rested from the fatigue of my constrained position.

My surprise can better be imagined than described, when, upon taking hold of the cord, I found it severed, *crushed squarely off*, within two inches of umbilicus, and oozing slightly. To this oversight, with consequent loss of blood, I must attribute the death of the child some six hours afterwards.

But how did the accident happen? In my opinion, the cord was caught between the edge of the second blade of the forceps and the tumor, in the final adjustment. And yet, to accept this theory, how completely doubled up must the child have



been! Some obstetricians contend that tying the cord is unnecessary, that to strip well and cut the cord is sufficient.

The result of this mishap will deter me from ever depending upon anything short of a good ligature. My preference is for silk elastic, and it always occupies a place in my obstetric satchel. The mother made a prompt and complete recovery. Five weeks afterwards she visited me at my office, and it was my good fortune to have my friend, Prof. H. F. Campbell, with me at the time. We both failed to distinctly define a tumor, but found the central line of the sacrum unusually prominent and rounded. That there was a tumor at the time of labor I am morally certain. To the tactile sense of Dr. Battey, "there is a second but smaller head." Could it have been a cystic tumor which was ruptured in the application of the forceps? As I have but a limited amount of obstetric literature within my reach, I must accept the research of Prof. Henry G. Landis, of Starling Medical College, Columbus, Ohio, who, in an article upon head and foot presentation in the *AM. JOUR. OF OBST.* for January, 1882, gives the details of four cases and states that there are but five other authentic cases in obstetric literature, so far as he has been able to discover.

## CASES IN GYNECOLOGICAL AND OBSTETRICAL PRACTICE.<sup>1</sup>

---

BY

THOMAS C. SMITH, M.D.,

Washington, D. C.

---

### ACCIDENTS FROM THE USE OF LAMINARIA TENTS.

CASE I.—This case is introduced as a prelude to the second.

Mr. R. called at my office for relief from a distended bladder. His retention had lasted about ten hours, and was the result of a stricture extending from the meatus about an inch and a half. I succeeded in passing a small catheter, and proposed to operate on the stricture, but he was not prepared to submit to an operation at the time.

Fearing he would have trouble in evacuating his bladder, I introduced a small laminaria tent, passing it just through the stricture, and instructed him to let it remain one hour, and then

<sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, Jan. 20th, 1888.

withdraw it. My purpose was to dilate the stricture so that he would not be under the necessity of returning to me, in the night, for relief. The next afternoon Mr. R. returned to say that a piece of the "stick" was in his urethra, and he could not remove it. I asked how long he had permitted the tent to remain in the urethra. He said it had not given any pain, and he had allowed it to remain all night. In the morning, when he tried to remove it, he found it did not come away easy, and he had used some force to get it out, when it broke off. He tried to get the piece through the stricture by pressure from behind and a small pair of pincers. Not succeeding, and being able to relieve his bladder, he had gone to his work, and at the end of the day came to see me. I could not draw the broken piece through the meatus, and realizing the necessity of removing the foreign body, I gave him a prescription for ether and sent him to his home. Securing the assistance of a young professional brother, I placed the patient under the influence of the anesthetic and cut the stricture, and readily removed the fragment, about an inch in length. The stricture had resisted the swelling of the tent, and the patient had pushed the dilator in too far. The part beyond the stricture swelled, and, when the patient attempted to remove it it broke in two, as already described. Much injury might have resulted if the broken piece had worked its way further into the urethra.

CASE II.—A young married lady who had never been pregnant consulted me for dysmenorrhea, from which she had suffered since menstruation began. On examination, I found a conical cervix, but there was neither displacement nor disease. On trying to pass a sound, the cervical canal was found to be of such diminished calibre that the instrument could not be made to reach the uterine cavity. A fine probe was finally made to enter the uterus. After some days of preparation, the lady was anesthetized, and a straight, sharp-pointed bistoury, cautiously used, was made to cut its way through the obstruction, enlarging the canal of the cervix sufficiently to permit the introduction of a sound with facility. A small laminaria tent was inserted and allowed to remain until the next day. It was my intention to introduce a hard-rubber stem pessary to prevent the contraction of the parts, but, owing to severe pelvic pain due to a slight cellulitis, this plan had to be abandoned. For six or eight months the lady suffered little from pain during her periods, but after that time the dysmenorrhea was as bad as ever. In June of the last year (1887), I made an examination, and found the cervical stenosis greater than it was originally. A solution of cocaine was applied locally, and I was able to divide the stricture sufficiently to admit a sound. Next day, a small laminaria tent was inserted for the purpose of dilating the parts so that a stem pessary might be used. On trying to remove the tent, I was surprised to find that it would not come away readily, and it was only by using considerable force that the tent was secured. The

patient suffered much pain at the time, but this was not to be wondered at when the tent was examined. This was found to have expanded above and below the stricture, but at the point of constriction its expansive power had not been sufficient to stretch the parts, and, as a matter of course, difficulty was experienced in removing the tent, which looked as if it had been tied tightly in the middle with a string. For several days the patient suffered pain, but, I am glad to say, has menstruated with less pain since that time.

The foregoing cases illustrate the unreliability of laminaria tents, owing to the irregular manner in which they expand. Emmet has already called attention to this matter, and, therefore, it will not be necessary to say more in relation thereto.

#### CASE OF VAGINAL HEMATOMA FOLLOWING LABOR.

August 4th, 1887, Dr. Meriam requested me to see an urgent case with him. He had just delivered a patient after an easy labor, and after removing the placenta, and while waiting for the child to be attended to, the lady began to complain that something else was coming. She was bearing down as if trying to extrude another child. On making an examination, the doctor discovered an obstructing body at the introitus vaginæ, and, without making a critical examination, deemed it advisable to secure counsel. On examination with the finger, I found the entrance to the vagina obstructed by a somewhat tense body, which, beginning near the perineum, extended almost to the cervix uteri. The posterior vaginal wall was pressed forward so that there was scarcely room to pass the finger up to the cervix. Realizing that the cause of the swelling was outside the vagina, I passed my finger into the rectum and found the lumen of that viscus occupied in the same manner as that of the vagina. The patient was suffering from the most violent tenesmus, straining like a person with dysentery. From the fact that the tumor was not movable and had not been present during labor, I was convinced that hemorrhage had proceeded from some vessel which had been lacerated during the labor, and that the effusion had separated the vagina and rectum, and that coagulation had taken place, producing the fusiform tumor found on examination. The quantity of blood effused was, in my judgment, about a pint. The solidification of the effusion and the condition of the patient, as indicated by her pulse, assured me that hemorrhage had ceased. The proper treatment seemed to be to prevent recurrence of the hemorrhage, and it was deemed best to relieve the tenesmus as the surest way of securing that result. Opium and ergot were administered at suitable intervals, and the lady, who was kept at rest, was soon relieved, and had no further trouble. The tumor had subsided about three weeks after the labor, at which time she was examined by Dr. Meriam for the purpose of ascertaining the condition of the hematoma.

In this case the tumor was larger than the fist, fusiform in shape, and occupied a position nearly central in the pelvis, between the rectum and vagina.

The termination of this case was both fortunate and unusual; fortunate, that the woman recovered without more serious consequences; unusual, in that tumors as large as this seldom terminate by absorption. More generally suppuration or gangrene, leading to septicemia, endanger the life of the patient more than the hemorrhage itself. Barker says: "The most rare termination is by resolution, as Perret found this result only four times in forty-four cases." The same esteemed authority says: "The deaths following thrombus have been ascribed to the following causes: Hemorrhage, external or internal; peritonitis; suppuration, with hectic fever; gangrene; pyemia; septicemia; and puerperal fever."

Hematoma, as a result of labor, is more frequently seen in the *labium majus* than elsewhere. When occurring in the pelvic cavity it may be confined to the cellular tissue between the rectum and vagina, or it may extend behind the peritoneum and reach the diaphragm.

The mortality is large, but as the statistics are based upon cases in which the effusion occurred in the external parts, as well as on those where the hemorrhage was within the pelvis, it is impossible to give data applicable to either class. According to Barker, Deneux "gives sixty-two cases of thrombus of the labia, occurring before, during, and after labor; and, out of this number, twenty-two of the women died, and twenty-one of the children were lost." This great mortality would not occur at the present time, when we are possessed of so much better knowledge of the affection, and of means for its treatment.

Concerning the causes of the disease under discussion, it may be said, briefly, to result from the rupture of blood-vessels by pressure of the fetal head. Varicose condition of the blood-vessels was, for a long time, thought to be a common factor in these cases, but Dr. Barker<sup>1</sup> has so thoroughly refuted that hypothesis, that nothing remains to be said on the subject.

The proper treatment of hematoma is about as follows: If the effusion is not great, and does not increase, keep the patient

<sup>1</sup> Barker, "The Puerperal Diseases," p. 61.

at rest and delay operative measures until clotting has closed the orifices of the bleeding vessels, and it shall appear that resolution is not taking place. Then if suppuration should take place, or if gangrene threaten, incise the parts, turn out the clots and pus, use antiseptic liquids to wash out the cavity and, if necessary, insert a drainage-tube. But if hemorrhage does not cease when the thrombus has reached a reasonable size, or if it recurs after the abscess has been opened, it will be necessary to lay open the parts sufficiently to pack the cavity with suitable material saturated with a solution of a per-salt of iron. Of course, it is understood that the patient must be sustained by suitable food and internal treatment.

As my purpose was to record a case, the like of which is of unfrequent occurrence, I will refer any who wish further light on the subject to the excellent treatise by Prof. Barker.

#### PELVIC ABSCESS MISTAKEN FOR A CYSTOCELE.

On July 23d, 1887, I was requested by Dr. Meriam to see Mrs. T., and received the following history of her case: The patient is about 24 years of age. One year ago she was delivered of her first child, the labor being terminated by forceps. A year previous to this confinement, the lady had a miscarriage of a two-months' fetus. Much blood was lost and it was found necessary to introduce uterine forceps to remove the secundines. An offensive discharge continued for some time, and the lady had been more or less an invalid up to the time of my visit, notwithstanding that pregnancy had intervened. During labor an elastic tumor came down in advance of the head and obstructed the parturition. The doctor, after vainly attempting to push it up, punctured the swelling and gave vent to a large quantity of clear fluid. The patient had a slow convalescence, and shortly after getting about noticed something protruding between the labia. Some months later this became so troublesome that it was with difficulty she could get about at all. Dr. Meriam examined the patient and found a tumor as large as a walnut protruding when the patient made an effort at straining. At one of his visits, the doctor introduced a hypodermic needle into the swelling and drew off a small quantity of clear fluid having the characteristics of urine.

Having received the foregoing history, I proceeded to examine the patient. On separating the labia a small, purplish body was to be seen, and on requesting the lady to "strain," the swelling increased until it was as large as an egg. On desisting from bearing-down efforts, the tumor resumed its former dimensions. The external parts were very sensitive to the touch, and on passing the finger I discovered that an offensive discharge was present. The

swelling was found to be central, and extended from near the meatus almost to the cervix uteri. It was elastic and fluctuating, not painful on pressure, and possessed the characteristics of a cystocele. The uterus was retroflexed, and the cervix presented a deep laceration on the left side, from which the odorous discharge proceeded. A catheter was passed and a small quantity of urine obtained. (The patient had relieved her bladder shortly before my visit.) The examination was not satisfactory on account of the restlessness of the patient. My opinion was that the lady was suffering from cystocele. This diagnosis was based on the position of the fluctuating mass, and the fact that on both occasions when it had been tapped a clear fluid had been obtained, which in one instance proved to be urine. I advised the introduction of a Gariel's pessary for the purpose of preventing the prolapse of the parts, and the use of antiseptic injections to remove the fetid discharge from the cervical laceration. This treatment, along with tonics and good nourishment, was to be given a trial, and if it failed to afford relief, it was agreed to anesthetize the patient and make a thorough examination.

On August 3d I was informed that the patient was no better and a visit was appointed for the next morning, when, on meeting Dr. Meriam, I learned that during the preceding night an abscess had burst into the vagina, and a pint and a half of pus discharged. This was still escaping at the time of my visit. Owing to the great tenderness of the vulva, the patient was etherized, and on introducing a Sims' speculum a small opening was discovered near the cervix, from which a creamy pus was slowly flowing, and the evidence of a considerable quantity remaining was unmistakable. I therefore enlarged the opening with a knife so that my finger could enter the abscess cavity. About half a pint of pus was quickly discharged, after which the cavity was thoroughly washed out. The supposed cystocele had disappeared. Antiseptic injections were ordered, and quinine and iron with stimulants prescribed. For a while the lady improved, but then hectic symptoms set in, and I saw her again August 18th. The antiseptic injections had been discontinued when improvement seemed to continue. On examination I found that there was but very little discharge from the abscess cavity, but a good deal from the lacerated cervix. I advised a return to the antiseptic injections and the introduction of cotton saturated with tannin and glycerin. Improvement then ensued, and shortly afterward the menses appeared, since which time the lady has had no trouble.

When I first saw the patient whose case has just been recited, I was not prepared to make a critical examination, nor was she in a suitable condition for such a procedure. It was my intention to place the woman under ether, and then explore the bladder with the finger, and by so doing determine whether the cystic mass was a diverticulum of the bladder or a cyst of the



vagina. I think it will be admitted that the history of two punctures with escape of a clear fluid justified the belief that one of these two conditions probably existed. I think it will be conceded that the cyst which caused the dystocia was a prolapsed bladder; also, that the hypodermic needle, which drew off urine, passed through the abscess and into the bladder.

Again, the origin of the abscess is a question worthy of a moment's consideration. Did it originate from the injury done the cervix in delivery, or is its origin to be traced back to the miscarriage which antedated the delivery one year? From the history of the case, it is my judgment that peri-uterine inflammation followed the abortion, and accounted for much of the ill health which ensued, but the influence which it exerted in causing the abscess must be conjectural.

The difficulty of making a diagnosis of intra-pelvic cystic bodies is illustrated in the case reported by Dr. Busey of "Cystocolpocele complicating Pregnancy."<sup>1</sup> This case further confirms the truth of Dr. Busey's remarks that, when the bladder descends in advance of the fetal head during labor, it may be mistaken for something else, and be "incised or punctured."

#### APPLICATION OF THE FORCEPS TO THE AFTER-COMING HEAD.

So unreasonable does the practice of making traction on the neck or shoulders, for delivery of the head in presentations of the breech or lower extremities, seem to me, that I feel impelled to ask my professional brethren to try the forceps, in such cases, before resorting to forcible traction. In the vast majority of breech cases, very little aid is called for. Still the fetal mortality in cases of presentation of the breech and lower extremities is so high-ranging, from nine to thirty-five per cent, that if we can reduce this death rate by applying forceps and hastening delivery, we should do so.

I believe that many physicians neglect to use forceps, in the class of cases under review, because of an opinion that the procedure is a difficult one to accomplish. The facility with which delivery was effected in the following cases ought to demonstrate how unfounded that view really is.

March 11th, 1886, Dr. Gleeson requested my assistance in de-

<sup>1</sup> AMER. JOUR. OBST., Sept., 1887.

livering a young primipara, who had been in labor some thirty-six hours. He had been called to the case only a few hours before sending for me, and finding that no progress was being made, deemed it proper to relieve the woman as speedily as practicable. The patient was a strong, healthy colored woman, but the prolonged labor had produced great exhaustion and a mental state approaching frenzy. She would get out of bed and roll on the floor, regardless of consequences. On examination, a breech presentation in the first position was made out. The os was well dilated, but the breech did not readily engage. The woman was etherized and the legs brought down; the body and upper extremities followed easily; then the head stuck, and resisted moderate traction made in the usual manner. The cord was still pulsating, but its beatings were becoming weaker. While Dr. Gleeson attended to the ether, and Mr. Smith, medical student, held the body in a perpendicular position, I applied the forceps with the greatest ease, and in a few minutes delivered the head. The child was readily resuscitated and cried lustily.

The second case occurred October 29th, 1887. On the 27th the waters escaped, without pain, early in the morning. The patient was a primipara. A breech presentation of a female child was readily recognized. No pain of any consequence followed until the middle of the next day, when contractions began and steadily increased in strength and frequency, but the breech did not descend at all. This state of affairs continued until next morning, when I gave a small quantity of ether, with the view of trying to bring down a leg, but the patient was so unpleasantly affected by the ether, that it was necessary to desist until assistance was secured. About eight o'clock A.M. on the 29th, Dr. Meriam and Mr. Smith arrived, and the patient was fully etherized. A great deal of difficulty was experienced in securing a leg, and after bringing this down, the cord was secured and found to be pulseless, and in the condition known as "apoplexy." After prolonged and laborious efforts, the child was delivered except the head. As it was dead, I endeavored by strong traction to bring the head into the world. Dr. Meriam also tried, but without success. The body of the child was now held as indicated in the last case, and I applied the forceps without any difficulty whatever, and effected delivery in a short time. The mother made an excellent recovery.

While I do not claim that all cases can be delivered as easily as these above cited were (for Dr. Busey records a case, in the paper above referred to, in which he failed to deliver with forceps), I do insist that the application of brute force to the neck and shoulders, for the purpose of dragging a head through the genital passages, is unscientific and, in the vast majority of instances, entirely unjustifiable.

REMARKS ON THE NUTRITION OF THE FETUS.<sup>1</sup>

BY

JEROME A. ANDERSON, M.D.,

San Francisco, Cal.

In a paper read before the Medical Society of the State of California, during the session of 1884, and published in the *AMERICAN JOURNAL OF OBSTETRICS* for July of the same year, I advanced the following propositions:

That the fetus is not nourished by or through the placenta.

That the office of the placenta is purely respiratory—an oxygen carrier and carbonic acid remover.

That the fetus is nourished primarily by direct absorption from the uterine tissues and later by the amniotic fluid.

While the fluid is vaguely referred to by several authors as possibly assisting in the nutrition of the fetus, my paper is, I think, the first-recorded series of original investigations pointing out the fact that the fetus is wholly so nourished, and that the commonly-accepted theory of placental nutrition is erroneous.

A very fair idea of the popular teachings by modern authors upon this subject may be obtained by quoting one of the latest and best, Lusk. He says:

"The origin of the amniotic fluid during the earlier months of gestation is not known; the most probable suggestion being that it is simply an exudate from the tissues of the fetus."

What an example this sentence affords of a really competent teacher accepting statements at second hand without reflecting upon their probability or improbability. For a moment's thought ought to convince one that the cause is not adequate to the effect. The weight of the amniotic fluid during the earlier weeks after conception is greatly in excess of the weight of the embryo. The hyperemic, hyperplastic uterine tissues can and do easily secrete this fluid, which to the feeble fetus would prove a more fatal drain than any adult dropsical effusion. His ex-

<sup>1</sup> Read before the San Francisco Obstetrical and Gynecological Society, April 12th, 1888.

## *Nutrition of the Fetus*

planation of the later source of the fluid, while in perfect accord with accepted teaching, is yet more lame. Thus:

"After the formation of the placenta a capillary network connected with the vessels of the umbilical cord is developed just beneath the amnion in that portion of the chorion which covers the placenta. From these vessels a transudation of serum takes place within the cavity of the amnion. After the first half of pregnancy has been reached the capillary network disappears."

Does the amniotic fluid disappear also when its alleged source is destroyed? Oh, no. With a delightful ignoring of all logic our author now avers:

"The continued *increase* of the fluid in the latter months of gestation is due to the accumulation of urine which the fetus passes involuntarily during the entire period of intra-uterine life."

In other words, as I have pointed out in my former paper, the fetus now develops a beneficial Bright's disease, yielding as high as 3% of albumin, which it enjoys for months, growing fat and sturdy meanwhile. It is to be regretted that this marvellous physiological substitute for a deadly pathological process finds no parallel in adult life.

Although not recognizing the true source and nature of the amniotic fluid and consequently of fetal nutrition, many investigators have made patient and praiseworthy attempts to trace the wondrous increase of the new being to its true source. The general belief is that tissue-forming substances pass in some way directly from the blood of the mother to that of the fetus through the placental circulation. To demonstrate this, Mayer, in 1817, experimented with animals by introducing ferrocyanide of potash into the circulation of the mother and searching for it in that of the embryo. In 1858, Schanenstein and Spaeth demonstrated the presence of kalium iodide both in the amniotic fluid and meconium of the newly-born infants of syphilitic mothers treated with this drug. Gusserow followed with a series of scientific researches, in which he clearly proved by carefully-conducted experiments with substances easy to trace that no solids found their way directly from the blood of the mother to that of the fetus. These results were verified by many co-workers in this field, notably Madame Mirapolski, Tassinski, and Weiner. Ballinger, Davaine, and others experi-

mented later with bacilli, obtaining negative results : as did also Runge with tuberculous matter. Gases, however, such as chloroform, ether, carbonic oxide, etc., as might have been predicted, were found to interchange easily.

The blood of the mother and consequently the placental circulation being thus excluded for nutritive purposes, it necessarily follows that primarily absorption and later the amniotic fluid are our only resources. As to the direct source of the latter, I at first believed it to be secreted by the same network of capillaries described by Lusk. Later studies, especially in the direction of hydrorrhea, have convinced me that I was in error, and that the fluid is secreted by the entire uterine surface during the whole period of gestation. That it is, in fact, a correlation of menstruation; the latter occurring periodically during the disturbance caused by menstruation, the former continuously under the constant activity of gestation. Nature is wonderfully conservative. To produce a leaf she modifies a twig; desiring a flower, she remodels the leaf; for fruit a further development of a portion of the flower serves. In like manner menstruation is changed to amnioation—to coin a term—and the fluid so furnished transudes through the membranes directly into the cavity of the amnion once this is formed. How else account for those cases, verified by *post mortem*, in which amniotic fluid pushes the membranes before it, through localized failures in transudation, thus forming at times large sacs between the membranes of the fetus and those of the mother? We have all seen many cases where, during the later months of pregnancy and especially at the beginning of labor, there have been free escapes of fluid from the uterus, and yet examination has proven the membranes intact and the proper fluid still surrounding the child.

I have now a patient under observation whose uterus at times, apparently by some abnormal imitation of gestation, slowly fills with fluid, increases in size and presents all the appearances of pregnancy. Under some shock—usually intercourse—there suddenly escapes a gush of water and her uterus quickly resumes its normal shape. At these times her menses proper are suppressed, unless this be considered a perversion of the function. At other periods her menses are perfectly normal. She has borne one healthy child.

All other causes being eliminated by exclusion, I am com-

pelled to classify this case as hydorrhea caused by anomalous menstruation.

Another case points to the true source of the amniotic fluid still more strongly.

Mrs. C., a young, delicate primipara, suffered a laceration of the membranes at about the seventh month. The tear occurred above the internal os and acted like a valve. The waters would drain almost completely away and then there would be a further accumulation, to escape again after some hours. There was no attempt at the expulsion of the fetus, nor pain of any kind. Feeling in doubt as to the proper course to pursue, I adopted an expectant one. The waters continued to escape freely three or four days. Every day the mother's strength visibly failed, until she became so exsanguined and exhausted as to be unable to leave her bed. Being assured that the loss of fluid was endangering my patient's life, I induced premature labor. This resulted in the expulsion of a child apparently uninjured by a drain which was plainly destroying the mother.

I leave the advocates of the urine-amnion theory to explain how the loss of the child's urine so affected the parent.

It is doubtful whether the fetus passes urine at all during its intra-uterine life, although there are strong reasons for so believing. Under normal conditions meconium is never passed, and its occurrence during labor is an imperative indication for terminating this process speedily. A large percentage of the newly-born pass no urine for many hours after birth. If the urine is passed during gestation, it may be that the laws of endosmosis and exosmosis governing albuminous and saline fluids permit it to be removed by uterine absorption without injury to the mother or fetus.

To briefly sum up the facts supporting amniotic nutrition, I quote from my former paper :

1st. The constant presence of nutritive substances in the amniotic fluid during the whole period of gestation.

2d. The certainty of the absorption by a growing, almost skinless, fetus of any nutritive material in which it is constantly bathed.

3d. The permeability of the digestive tract at an early period, and the necessary entrance therein, according to the laws of hydrostatics, of the albuminous amniotic fluid.

4th. The presence of, as it seems to me, *bona fide* débris of digestion, or meconium, in the lower intestine.



5th. The presence of urine in the bladder, and bile in the upper intestine; their normal locations.

6th. The mechanical difficulties opposing direct nutrition through the placenta, and the impossibility of nourishment by this method during the early stages of embryonic life previous to the formation of the placenta or umbilical vesicle.

To which I now add:

7th. The evident maternal source of the fluid, as shown by the hydrorrheas of pregnancy, as well as in the exhaustion the mother experiences, in some cases at least, under its loss and rapid reproduction.

8th. The entire absence during gestation of any trace of the placenta in certain animals, notably the salamander.

Ott,<sup>1</sup> while making no original investigations into this subject, has given a careful *resumé* of its literature, to which I am indebted for some historical and other data in this paper. My own former paper he quotes from freely. He declines, however, to commit himself to any definite theory. As there has been an attempt by one or two journals to connect his name with a theory which I claim to have first definitely stated—as the result of personal experiments and studies—I will set aside his title to this distinction by quoting a translation of his own concluding words:

“In closing herewith this *resumé* of the at present existing theories on the nutrition of the fetus, I do not intend to offer a premature solution of this exceedingly complicated and experimentally so difficult question. My object merely was to test the results published by the authors of the last few years, and to point out the defects which the rapid progress in medical science renders apparent also in this inquiry and which urgently demand repair.”

<sup>1</sup> “Ueber den Stoffwechsel zwischen Frucht und Mutter.” *Arch. f. Gyn.*, Vol. 27.

## COMPLICATED PLACENTA PREVIA.

BY

ANGUS MACKINNON, M.D.,

Guelph, Canada.

ON the morning of the 24th of December last, I was called to assume charge of Mrs. W., a very short and obese woman, 42 years of age, who believed herself to be in the last month of pregnancy. I learned that she had some hemorrhage on the 29th of the preceding month, and a second attack two weeks later. The hemorrhage was not very great on either occasion, but this morning the loss was somewhat alarming, and seemed to confirm the suspicion of placenta prævia.

On examination I found slight hemorrhage still going on. There was no labor pain. The os was very high and not dilated. No part of the child could be felt.

Dr. Keating saw the patient with me and concurred in the view that we had a case of placenta prævia to deal with, and that it was necessary to terminate the pregnancy with as little delay as possible.

With much difficulty the finger was carried through the anterior margin of the placenta, and the membranes freely ruptured—a large catheter being used to drain the fluid away—I then introduced a firm tampon consisting of strips saturated in sol. hydrarg. bichlor. (1:5,000). This effectively controlled the hemorrhage. The patient was cheerful and the pulse had fair volume. After ten hours, on removing the tampon the os was still very high and but slightly dilated, though dilatable. There being no labor pain, a second tampon was introduced. In six hours I found it necessary to remove this, as some hemorrhage was going on. Up to this period the patient's condition was good. The volume of the pulse was fair, and she did not manifest any signs of serious loss.

Owing to her obesity, I was very anxious to withhold chloroform, but she struggled with so much force that I gave her a little while the child was being turned. It was now found that the shoulder was the presenting part. One leg was quickly seized and brought down, and though the os was quite relaxed, the rapid delivery that was contemplated could not be accomplished.

On reaching high up along the dorsum of the child, I found a large spina bifida, after rupturing which the birth was speedily terminated. What remained of the placenta was readily removed, and the uterine cavity syringed out with a hot solution of hydrarg. bichlor. 1 : 4,000. Within an hour after the completion

of labor, the patient died, apparently more from shock than from hemorrhage.

General remarks :

1. The complications. Owing to the fatty condition of the patient, external manipulation could furnish no information as to the position of the child *in utero*. Internal examination, with the os so high, the patient so stout, and the placenta occupying the whole lower zone, failed to give us any warning either of the shoulder presentation or the spina bifida. The head of the child was hydrocephalic.

2. The cause of death. I have notes of several cases of placenta previa, where recovery occurred after much greater hemorrhage than this patient had. The turning was accomplished without any unusual difficulty and with very little hemorrhage. Though there was unexpected delay in delivery, the body of the child acted as a tampon, and almost no hemorrhage occurred during the delay. In all probability the fatty condition of the patient had much to do with the fatal issue.

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

*Stated Meeting, April 17th, 1888.*

*The President, DR. H. T. HANKS, in the Chair.*

### NEEDLE-HOLDER.

THE PRESIDENT exhibited an improved needle-holder constructed in such a manner as to hold at different angles a very large or very small, decidedly curved or absolutely straight Hagedorn or round needle. The principle of holding the different curved and shaped



needles of this design consists in having the ends of the forceps for seizing the needle ground to fit each other like the ball-and-socket joint. The socket or lower end of the forceps is ground in grooves at three or four different angles to a point below the base

of the socket. And thus the needle fits in either one of these several grooves and the ball end of the forceps presses directly upon the needle in the centre of the socket and holds it firmly. The parts are disjoining, one portion is long for the hand to grasp firmly or lightly as may be needed, the other is shorter and made with a ring for the end of the thumb. This is placed at right angles to the axis of the instrument.

(1) The instrument will hold any Hagedorn needle at any convenient angle.

(2) It will hold any other small needle.

(3) It will hold a strong cervix needle.

(4) It can be used like any other needle-holder by placing the needle near the rivet.

(5) The instrument is inexpensive.

It is made by the up-town firm of Tiemann & Co.

#### CLAMP FORCEPS FOR VAGINAL HYSTERECTOMY.

DR. C. CLEVELAND showed a clamp forceps which he had devised for the purpose of securing the broad ligament before vaginal hysterectomy. Such forceps were especially useful in cases where the vagina was small or the uterus high up and not easily drawn down, so as to render the application of the ligature difficult. The forceps was constructed on the principle of the obstetric forceps, the male blade being placed anteriorly, the female blade posteriorly. Dr. Dudley, of Chicago, used a similar instrument. Dr. Hunter had suggested that the handles be curved and this had been done.

DR. LUSK stated that he owned a similar instrument devised by Doléris, of Paris, which was supplied with a simple forceps lock; his was a trifle heavier.

THE PRESIDENT said that Dr. Polk had devised a similar instrument and had shown it at a former meeting of the Society.

DR. JANVRIN stated that he had had a similar instrument at his office for some time, and that the forceps was simply that of Spencer Wells, the only difference being in the fastening and in the lock.

#### TAIT'S OPERATION.

DR. G. M. TUTTLE presented the appendages removed from a young woman about twenty-five years of age; the symptoms were intolerable, almost constant pelvic pain and flooding. On examination, the appendages were found diseased. He requested the expression of the experience of the members as to the technique in difficult cases where the appendages were almost universally adherent. In the present case, they were attached on one side to the posterior surface of the uterus, they were separated by the finger nail, and the hemorrhage arrested with the thermo-cautery. Though the wound was large, it was impossible to bring the appendages up to the surface, and he had to operate in the depth of the pelvis. In some cases he had been able to enucleate

the appendages by unrolling the broad ligament ; here, however, he found it necessary to ligate the entire broad ligament on that side. A part of the ovarian tissue had been left behind. The woman made an uncomplicated recovery, with relief of symptoms.

#### PROLIFERATING OVARIAN CYSTOMA.

Dr. Tuttle presented the specimen which he had removed from a girl of sixteen years. The tumor had been noticed by the patient only one month before operation ; it had yielded a flat percussion note and was thought to be a parovarian cyst ; the fluid withdrawn by puncture was limpid and of a low specific gravity (1.008). Secondary cysts had developed within the primary one. The patient had since remained well.

#### OÖPHORECTOMY FOR FIBROIDS.

Dr. Tuttle also presented both ovaries and one tube removed from a woman for intractable uterine hemorrhages due to fibroid tumors, partly subserous, partly intra-mural. Examination gave the impression of great fixity, the ovaries were very adherent, and there was immense edema of the right leg. At the operation he had experienced great difficulty in getting the appendages up into the wound, and had removed from one side both the tube and the ovary, but from the other side the ovary only. The remaining tube was closed at the horn of the uterus with a single ligature. Since the operation he had made a monthly examination and had found a very marked decrease in the size of the growths. Previously he had tried thorough curetting and other measures, but not electricity.

DR. BOLDT said he did not quite understand what Dr. Tuttle meant by unrolling the appendages. He had had a number of cases where the adhesions were so firm that he had to dig down between the tube and ovary, and at the same time to keep close to the walls of the pelvis in order not to tear the tube.

DR. TUTTLE replied that the expression seemed clear: the ovary and tube are lying on the posterior surface of the broad ligament, where they are fastened by peritonitis, and these organs are therefore not reached directly. We must begin by loosening the adhesions, or as Dr. Wylie says, separate the adhesions by unrolling and unfolding them.

DR. JACOBUS stated that he had often seen Dr. Wylie operate, and that the expression "unrolling" seemed to him an appropriate one.

THE PRESIDENT.—With reference to the first specimen, I think there is one procedure which will be of assistance in the operation, and this is to tampon the vagina with cotton, whereby the appendages are lifted up and the unfolding is rendered very much less difficult. At the best, however, the operation is a very difficult one, and Dr. Tuttle ought to be very much gratified with his results, since he had to manipulate deep down in the pelvis.

#### DERMOID CYST OF THE OVARY.

DR. BOLDT presented a specimen with the following history: Rosalie M., æt. 24, married seven years; two children, the first at

seventeen, the second at twenty. For the past year she has been complaining of severe backache, pain in both ovarian regions and the hypogastrium, most severe in the left ovarian region; dysmenorrhea and menorrhagia. During the past few weeks the pains have been increasing very much in severity, so that she could not follow her usual avocation or attend to any household work.

Examination showed the uterus anteriorly. On the left side and posteriorly a mass could be felt, very tender to the touch, seemingly a distended Fallopian tube, and it was thought that the patient suffered from a pyo-salpinx. On the right side the ovary was also felt very tender. When the patient was examined under anesthesia, the diagnosis was changed to small ovarian cyst instead of pyo-salpinx. The operation proved the tumor to be a small ovarian cyst lying a little to the left and posteriorly to the uterus. The adnexa on the right side were found to be very adherent, both the tube and the ovary enlarged, and they were removed with considerable difficulty. The interesting points about the case were: the amount of disturbance such a small tumor may cause, and the difficulty of making the diagnosis before the patient is anesthetized.

(The cyst, which had been presented intact, was now opened, and proved to be a dermoid tumor.)

DR. WYLIE said that the diagnosis was always difficult in that class of tumors, and the more he saw of them the more he became convinced of that fact. There was one point about dermoid tumors worth insisting upon, and this was that they were apt to have irregular points about them when they began to grow. He had seen some of the best men make mistakes in the diagnosis.

DR. TUTTLE had had one case in which the diagnosis was extremely easy, having been made per vaginam, owing to the detection of bone.

THE PRESIDENT asked Dr. Boldt and Dr. Wylie if they would not expect very much more pain in dermoid than in other tumors.

DR. BOLDT said that, in his experience with dermoid tumors, their size had little to do with the pain. Very frequently he had found the greatest amount of pain associated with small cysts situated low in the pelvis; when they rise out of the pelvis, the pain abates somewhat, and occasionally none whatever is present.

DR. WYLIE added that dermoids were much more liable to set up inflammatory processes, that being one reason why they give rise to pain.

THE PRESIDENT confirmed the fact that inflammatory processes were of constant occurrence.

#### INTRA-LIGAMENTOUS OVARIAN CYST.

THE PRESIDENT presented a specimen removed from a young woman sent to him by Dr. Mason; she was suffering from an abdominal tumor and great anemia. She was operated on at the Post-Graduate Hospital, and on making the usual abdominal incision, an intra-ligamentous ovarian cyst was found. The attach-



ments were so firm that it was impossible to remove the whole of it, and the base of the cyst had to be left behind, a portion about four inches in diameter. The patient made a fair recovery. Papillomatous growths soon sprouted from the abdominal wound. Six months later, the growth presented was removed, and with this new cyst all of the pedicle of the old cyst, but a portion of the base had to be left in the cavity. An interesting point to the speaker was that some portion of the uterus formed part of the specimen, and evidently it must have been attached to the intraligamentous cyst of the right side. He had not been aware that he had removed it.

DR. COE, who had examined the specimen carefully, said that the condition was complicated; about one-half of the uterus had been removed. The cyst was papillomatous and was malignant microscopically. An interesting point was the recurrence of a cyst on the opposite side, both having apparently developed between the layers of the broad ligament. These cysts were frequently associated with the effusion of ascitic fluid.

THE PRESIDENT added that when the patient first came into the Post-Graduate Hospital, two to three pints of ascitic fluid were present.

DR. MUNDE.—Something might be said as to drainage. I had an opportunity to operate on a case of ascites which had followed on a tumor which could no longer be felt on account of the distention. I opened the abdominal cavity and found a papillomatous mass involving everything in the pelvis. I closed the wound immediately, and the patient made an easy recovery. In two months she was as large as before. I again opened the abdomen, making a much larger incision, and attempted to remove with the fingers as much as I dared; but it was utterly impossible, the bleeding being so free. As soon as the hemorrhage was arrested, I introduced a drainage tube horizontally and placed a twenty-pound sandbag on the abdomen. There was a constant oozing of sero-sanious fluid through the tube which was removed when the flow stopped. The temperature never rose above 99° F. The fluid did not return. If this procedure had been adopted after the first operation, the result would have been the same.

THE PRESIDENT said that in his case the papilloma was altogether inside the cysts, and none in the abdominal cavity.

DR. LUSK had had a patient in the hospital with some ascitic fluid in the abdominal cavity. After many examinations, just before operation, he had pronounced it an ovarian cyst, though he had been in doubt before. He made an incision, and found that the cyst was formed by the matting together of the intestines, and the interior of the sac was filled with such papillomatous growths. The patient was in a deplorable condition at the operation, and he thought she would not live two or three weeks. He cleaned out the cavity very thoroughly. She began to improve, and at the end of the month left the hospital seemingly in perfect health. Eight months later she returned with general carcinoma of the abdominal cavity.

DR. WYLIE said that papilloma was not rare, and if the tumor could be got out before it had burst, the prognosis would be more favorable. Drainage was certainly good. As in the case of

myxoma, one tumor may burst, another not. The sac may be filled with hundreds or thousands of masses resembling jelly fish. He had had one remarkable case where one of the tumors had burst and myxomatous material had escaped; another, still closed, where myxomatous degeneration was evident by jelly-like masses filling the sac. When attached to a pedicle they will grow and crop out again, and eventually kill the patient.

DR. C. MACKENZIE read a paper entitled:

REPORT OF CASES OF CHRONIC PELVIC ABSCESS OPENING INTO THE  
RECTUM.

He stated that he did not believe that such cases were infrequent, as he had seen five in less than two years.

They are similar in their symptoms, and only vary in intensity and the amount of trouble they give. In the five cases, three were multiparæ, two primiparæ. They varied in duration from one to over six years.

All the cases were patients from out of the city; the early history of their trouble was incomplete and obtained from statements drawn from patients.

The symptoms given were those of an acute attack of cellulitis following confinement. The first case, Mrs. S., primip., the labor was simple and normal. She made good progress until the eighth day after, when a fright produced a severe nervous shock. In about twenty-four hours she had severe pain in the left side, followed by chills, fever, etc., for which she was treated. She had, as nearly as he could learn, all the symptoms of cellulitis, and in about ten days she had, as she expressed it, a severe attack of diarrhea, the evacuations being mostly pus, with a slight amount of blood. She was now treated for dysentery. She experienced considerable relief from pain, but rectal tenesmus continued. She usually had two or more evacuations from the bowels daily. The first very likely normal, the others small in quantity, with pus and blood and great tenesmus. Just previous to menstruation, the pain as well as pus would be increased. The general system in all these cases is very much run down, and the discomfort and annoyance very great. The second case, Mrs. L., began two weeks after confinement. Labor was tedious, and the perineum was ruptured. It was operated upon, but unsuccessfully. She came to him for operation for restoration of the perineum, thinking all her symptoms and troubles were due to the laceration. He could, after carefully washing out the rectum in this case, detect an opening in the rectum about three inches from the anus, but it was impossible to pass any form of probe through the sinus to the sac. The walls of the rectum were thickened in portions, red and swollen. In this and the previous case the proctitis was not as severe as in the others, and allowed of a more thorough examination with the speculum. Case No. 3, Mrs. H., occurred four years ago, after third labor, cause unknown. Here the proctitis was very severe,

the membranes thickened and friable. This case had been treated for inflammation of the rectum and the sphincter ruptured. At times the opening in rectum seemed to be closed either by thick viscid mucus or feces. Case No. 4, Mrs. H., was one of six years' standing and much more severe, the rectum was so thickened in spots and so friable that at first he thought he had a case of carcinoma to deal with. Case No. 5, Mrs. T., had been suffering for six and one-half years. She began to suffer two weeks after labor, which was normal. She was operated upon by her physician, who she says passed a trocar on two different occasions and evacuated a large quantity of pus. In this case it was impossible to detect any opening, it was so high up. He was so much impressed that it was a case of carcinoma, that Dr. T. A. Emmet saw the case with him, and, after thorough examination, they decided that it was a chronic abscess. In all these cases, there had not been any subsequent pregnancy, although in three there was no uterine trouble, and in two only the uterus was limited in its movements. By combined vaginal and rectal examination, in most of the cases, a small hard mass could be felt high up. In none of them was it larger than a small lemon or good-sized egg.

The general treatment of these cases had been a supporting one, tonics, nourishing food, as they were very anemic, thoroughly washing out the rectum with hot-water douches after each movement. The proctitis was treated in many ways so as to give relief to the tenesmus, but with only transient benefit. In two cases in which he explained the risks and probable failure, he passed either an aspirating needle or small trocar through the cul-de-sac high up, hoping to reach the sac and so make a counter-opening, and in one case a drainage tube was passed in over the trocar, hoping to give relief, but unsuccessfully. No bad effect followed this procedure.

The cases are very much broken down, and any relief is hailed with joy. As the constant drainage, as well as the tenesmus, is exhausting, complications of waxy liver or kidneys may arise.

He would especially like the opinion and any suggestions from members of the Society as to the treatment.

DR. LUSK.—These abscesses are rare, if the patients who are attacked with pelvic peritonitis or cellulitis after confinement are properly treated; they occur chiefly in those patients where cellulitis has been overlooked and no treatment employed. A woman gets up and complains of neuralgia; I have known such patients to be advised to get up, and under those circumstances suppuration takes place and adhesions form to the abdominal viscera. Perforation may ensue through the uterus, vagina, and bladder. I remember being called, a number of years ago, by Dr. Leale to assist him in a case where he proposed operating. The woman had had pelvic cellulitis, and an abscess had formed which had discharged through the rectum for nine years. We found, on examination, a small opening in the vagina, and by running a probe up,

reached the pus cavity. Dr. Leale, though counselled against it, made an incision in the vagina, and found a sinus three or four inches in length, inserted a metal tube, drained the abscess, and the patient made a good recovery. I have followed the same plan since. It seems a perfectly safe method of treatment, unless the abscess is too high up. The best place to drain is into the vagina. The aspirator needle may be used first, followed by an incision and the drainage tube. A good deal depends upon the care with which the abscess is washed out. It is extraordinary in how short a space of time the cavity becomes obliterated. I recollect a case thought to be a fibroid; the tumor was connected with the uterus, from which issued, from time to time, a most disgusting discharge—a gush of fetid pus so offensive as to force the husband to leave the room. In this case the aspirator needle was passed through the vagina, the pus cavity found, and drained in the way described; the patient is now a stout, buxom woman. Drainage up-hill (through the abdominal wall) is not as good as down-hill. I had occasion this afternoon to do this operation on a patient from whom I removed a double hydro-salpinx and put in a drainage tube. After the tube was withdrawn, symptoms of septicemia appeared, temperature 105° F., and the patient was looking very badly. I aspirated through the vagina, made an incision, put in a rubber drainage tube, washed out the cavity, and the patient is comfortable to-night. (Has since recovered without a bad symptom.)

DR. SIMS.—I never had any experience whatever with abscesses following confinement. The two most interesting cases I had in recent years was one in a married lady of only seventeen years, another a young healthy working girl from seventeen to eighteen years old. The latter "had taken cold in the bowels," and the temperature was high before I saw her. The treatment had not been successful, an abscess broke through the rectum with tendency to discharge, etc. She was sent to the hospital, where they kept her for a long time, but could do nothing for her except to build her up. Finally she came to New York very much emaciated. In this case the abscess was high up, and did not point in the vagina, hence it could not be drained that way. The upper border of the tumor pointed at the umbilicus. The following day I gave ether, made an incision into the abdomen, for in this case the operation was feasible and easy, since the walls of the sac approached closely to the abdominal walls. I made two counter-openings, one at the upper point, one below the umbilicus. Over a quart and a half of pus drained away. A drainage tube was inserted into each opening. After a week's drainage I made a large wound by joining the openings in order to evacuate the large amount of pus. The cavity was irrigated every two or three hours. In this case the drainage tube saved life, for the girl made a good though slow recovery; it took about ten weeks before she was well. I did not see her again till last fall, when she told me that she had been perfectly well in every way. That case is the only one I have drained through the abdomen, for, as Dr. Lusk says, down-hill drainage is best. The case in the married patient was one of pelvic abscess due to an operation performed some time previously, not by me; she was confined to bed six or eight weeks. At that time she had a large mass presenting in the posterior cul-de-sac; when I saw her it was the size of an orange or larger. I decided at once to operate on her and made a free incision into the posterior cul-de-sac, after having used the needle to verify the

diagnosis. A drainage tube was used until the sac had closed. In this case, after cleansing the cavity, I injected tincture of iodine which had a happy effect : the patient is now a well woman. I much prefer vaginal drainage.

DR. WYLIE.—I would not like to attempt to cover the whole field of pelvic abscesses in a discussion of this kind, and will endeavor to confine my remarks to the class of cases referred to in the paper. My belief is, that pelvic abscesses after labor are due to sepsis, and I would attribute this to want of cleanliness in either the doctor or nurse, and not to getting up too soon or cold, etc. I would also say that pelvic abscesses opening into the rectum have little to do with cellulitis, and that they are nearly always caused by salpingitis and ovaritis due to sepsis of greater or less intensity. If they bulge in the vagina near the cul-de-sac, they can be readily opened and drained without much risk, and if they are actively septic—so that laparotomy for the complete removal of the diseased tube and ovary, which nearly always are found in them, would be very risky—they should first be treated by drainage by the vagina when this is practicable. If they are in front of the broad ligament or above it and can be reached only through the lateral or anterior vaginal walls, then laparotomy is the safer means of dealing with them.

When a pelvic abscess opens into the rectum and empties, then, in its collapsed state, it is often very difficult to get drainage by the vagina. This class of cases are about as interesting and as difficult to deal with as can be found in gynecology. My method is, to improve the general condition of the patient, then if the opening in the rectum can be found, to dilate it freely and introduce a drainage tube into the cavity, and at the same time, by means of a rectal tube, keep the rectum free of gases and clean. This will sometimes effect a cure, but often laparotomy is necessary to effect a complete cure or to secure drainage. If no opening in the rectum can be found, I watch the case closely, and when there is a swelling caused by the filling of the abscess, I may find a point that can safely be punctured by the vagina. Taking a small curved trocar I introduce it into the abscess, withdraw the canula and wash out the cavity with 1 to 3,000 sol. mercuric bichloride, then I slip in through the canula a director without a handle, so that I can remove the canula and leave the director in the abscess as a guide. Then, instead of using a knife or scissors to enlarge the opening, I slip in a dilator and dilate the opening until I can introduce my index finger. I then introduce a large-sized rubber drainage tube and sew it to the cervix uteri with silver wire to prevent its slipping out. This procedure rarely fails to cure the abscess, but often leaves behind a part of the diseased tube and ovary, which may give trouble later.

DR. MUNDÉ.—Dr. Wylie has left me but little to say : he has expressed substantially the practice I follow. I would like to correct a statement I formerly made, that pelvic abscess when it opens into Douglas' pouch is not an abscess of tube or ovary. Dr. Wylie will remember many discussions we have had on this subject. I must confess that the results of numerous laparotomies show that I was wrong. But I believe there may be pelvic abscess without intraperitoneal trouble. I think that the class of cases that open into the rectum are not very rare, but very interesting and difficult to handle. I have followed the same method of treatment Dr. MacKenzie pointed out, and I have tried the col-



peurynter or Barnes' bag in the rectum after distending the sphincter ; then, without removing it, I have passed the aspirator needle into the bulging sac, and made a small incision, but have been afraid to pass a dilator. I have inserted a drainage tube and iodoform gauze, and such cases have recovered. Dr. Byford recommends rectal irrigation, which I think is bad ; I would irrigate by the vagina if possible. If the abscess cavity extends, make an incision through the abdominal walls and drain into the rectum from the vagina. I am not speaking of puerperal cases ; in fact I do not remember whether they were puerperal or not, for they are all treated the same way.

DR. CLEVELAND.—I have seen similar cases. I have lately had a pelvic abscess under my care which was due to another cause. I had an extensive bilateral laceration of the cervix to operate on, the posterior lip being suspicious in appearance and resembling epithelioma. I dissected it out, and did it very carefully, but got into the peritoneal cavity to the extent of an inch and a half in width. I sewed the edges together, and while I was doing that, blood escaped into the peritoneal cavity. I passed in a rubber catheter and washed out the cavity with warm boiled water. Within twenty-four hours the woman commenced to have trouble ; I expected general peritonitis, but succeeded in controlling it ; the temperature went down, and at the end of ten days I took out the stitches and found slight pouching into the cul-de-sac. I made an opening and drained the abscess. The woman made a good recovery. The abscess was due to blood that flowed into the peritoneal cavity.

DR. FRUITNIGHT reported a case following miscarriage. When seen the patient was thirty-three years of age ; four years previous she had had a miscarriage followed by circumscribed peritonitis, from which she recovered. After that she had two attacks of pelvic cellulitis from which she likewise recovered. The third attack, in April, 1882, did not end in resolution. A week after the onset of symptoms of cellulitis, pus began to appear in her stools, showing that an abscess must have ruptured through the rectum. He gave a bad prognosis. He recollected the case of Dr. Leale who made an abdominal incision in the right inguinal region, and another at the same time into Douglas' cul-de-sac. A drainage tube was introduced, and the cavity was irrigated daily with carbolic solution 1 : 1,000 ; this was kept up for two months, when the pus gradually disappeared. When the drainage tubes were removed, a small fistulous opening remained which closed by degrees.

DR. COE.—Dr. MacKenzie's cases seem to be of the class which cannot be reached through the vagina. Byford has suggested that in these cases a probe should be introduced into the fistula in the rectum. These abscesses are usually high up, they are small, and the openings are minute and are not easily found. I remember a case of this nature where two gentlemen were about opening the abdomen ; the abscess was high up and could not be reached ; no fluctuation could be felt. After a long trial I succeeded in getting a small probe through the rectal opening. I saw a similar case in which laparotomy was done, but the abscess could not be reached. Laparotomy does not promise a permanent cure, as these abscesses are so small that they cannot be drained through the abdominal wound. Large abscesses usually rupture externally or into the vagina. It seems to me that the results of



treatment in the cases mentioned by Dr. MacKenzie are not very encouraging.

DR. NILSEN treated his cases in a manner similar to the one outlined by Dr. Wylie. When the abscesses bulge into the vagina he has been in the habit of opening them, often freely, until he had an experience which causes him to lay stress upon the possibility of doing serious damage by what may appear the simple opening of an abscess in the vagina. He had seen in his practice three cases of dislocation of the bladder, where a sound in the viscus could be felt low in Douglas' cul-de-sac. In one of these cases the discovery was made while endeavoring to aspirate a large pelvic abscess which pointed in the posterior fornix vaginae. The needle was pushed in until pus flowed. About an ounce passed. Knowing from the area of fluctuation that there must be more, he pushed the needle deeper, when suddenly limpid fluid appeared in the vacuum bottle, filling it to above the eight-ounce mark. He had been assured that the patient had passed urine just before he came. The fluid proved to be urine. The sound introduced showed the bladder to lie as described. There was fluctuation still, but he did not dare to meddle with it from the vagina. Waited until next day. Then discovered swelling on deep pressure from without, above Poupart's ligament. Through laparotomy the abscess was finally emptied. Drainage and irrigation established perfect cure. In view of this experience, it could not be out of place to warn against too great confidence in the simple methods described in text-books.

DR. JANVRIN.—I remember a case of the character reported by Dr. MacKenzie, occurring eleven years ago. The abscess pointed to the left of the posterior cul-de-sac. It was washed out with a large male catheter. The patient was suffering from phthisis and did not get along very well. The late Dr. Peaslee saw her with me, and decided to make a counter-opening into the cul-de-sac. The abscess was washed out through the vagina, the patient recovered, and has been perfectly well since. One idea occurred to me to-night—I do not know whether it is feasible or not in the way of an operation—in these large abscesses which have opened into the rectum from three to five inches up above what is called the German sphincter, that being the only opening, whether it would not be perfectly justifiable to perform laparotomy, evacuate the abscess-cavity, clean it out thoroughly, remove what can be removed down to the rectal wall, pare the edges and close up the opening into the rectum, having established a counter-opening in the vagina and so produced a sac from which the rectum is excluded. I remember a case in which I removed both ovaries for dermoid cyst where there was a prolongation into the rectum, and in order to remove it, I had to withdraw it through its anterior wall. The laceration into the rectum was about one and a half inches in length. The edges were brought together with carbolyzed sutures, and the patient got well without any trouble whatever. I throw this out as a suggestion to be made use of in some of these cases. In bad cases of cancer of the uterus, in curetting, I have penetrated into the cul-de-sac, yet it made no difference in the result of the cases; I have never attempted to close the opening; I washed it out with an antiseptic solution, pushing the intestines out of the way; I used iodoform gauze, etc., and never saw any bad results.

DR. MURRAY had had a case of pelvic abscess whose history

varied from the ordinary. The lady was about forty-eight years old; she had had pelvic peritonitis and cellulitis, and was in an emaciated condition. There was a fetid discharge from the rectum and vagina. He found an opening extending into the rectum, and a projecting mass of tissue, extremely offensive, which could not be drawn away. Back of the uterus was an opening into Douglas' sac, which led into the abscess cavity, into which the slough of tissue extended; by traction and twisting by this channel it was brought away, and proved to be a portion of the Fallopian tube. The case after this got better; the cavity was irrigated with carbolic acid solution; the openings into the rectum and vagina closed sufficiently to make the patient very comfortable, and she had no trouble unless the feces were very fluid. Cases seen in the puerperal period are usually due to pyo-salpinx, and not to sepsis, for they come on too soon after labor; puerperal abscess is one that comes on in a week or ten days after delivery, but in the cases where, he thought, there has been pyo-salpinx stimulated into activity, the symptoms show themselves early. He had seen such cases. Those which open into the rectum take a long time to cure. He had opened a number of them into the vagina.

THE PRESIDENT said that the author of the paper desired to know what to do in these cases, since they do not heal spontaneously, as a rule. If they rupture within the reach of the index finger, below the utero-sacral ligaments, we may, by giving an anesthetic and using a speculum, see the opening, pass a probe, and thus enter the cavity. The rupture generally occurs above the level of the sac, and a bent probe might be passed into the vagina and a counter-opening made. As Dr. Wylie said, when they rupture into the vagina, they are a long time in healing. He remembered a case discharging pus for a year and a half. The point made by Dr. Wylie was a very practical one. In such cases as Dr. Mackenzie related it makes little difference, when they rupture, whether they were puerperal or not. Make a counter-opening into the vagina; the patient will at least improve, and the majority will get well.

DR. MACKENZIE, in closing the discussion, said that in all his cases the tumor was exceedingly small, no larger than a small lemon or a hen's egg. The method of passing a curved probe was tried without any success. The method spoken of by Dr. Wylie would do where we can find pus, but if no pus can be found, he did not see what was to be gained. He thought the cases mentioned by Dr. Coe were similar to those he had seen.

#### RESOLUTIONS ON THE DEATH OF DR. BENJAMIN F. DAWSON.

In the death of Dr. Benjamin F. Dawson, which occurred from diabetes, on April 3d instant, the New York Obstetrical Society has met with no common loss. To many of the older members of this Society, of which he had been an associate since 1869, and for a short time its President, it means the loss of a personal friend; to all, the extinction of a life devoted with singular zeal to the promotion of medical science.

Dr. Dawson was born in New York in 1847, and was graduated in medicine from the College of Physicians and Surgeons in 1866.

Although inheriting such ample means as placed him above the necessity of work, his energy never faltered after entering the pro-

fession of his choice. Even before graduation he had served as a medical Cadet and an Acting Assistant Surgeon in the United States Army. Two years after this, in 1868, he founded and for six years edited the *AMERICAN JOURNAL OF OBSTETRICS*, then, as now, an invaluable repertory of obstetric and gynecological knowledge. To this and to other professional periodicals he contributed freely for a number of years in pediatrics and gynecology.

With the late Dr. Kammerer he translated Klob's "Pathological Anatomy of the Female Sexual Organs"; and in 1870 he edited an American edition of Robert Barnes' "Obstetric Operations," with additions.

In 1876 he invented and described a new galvanic battery, which to-day—after twelve years' trial—is confessedly one of the best appliances for galvano-caustic surgery to be found in this country or in Europe.

For many years he was one of the Assistant Surgeons of the New York Woman's Hospital, where one of the writers of this notice received from him ungrudging and efficient aid in laborious surgical work, which he now recalls with grateful affection.

For a shorter period he was an Attending Physician to the New York Foundling Asylum and a Professor of Gynecology in the New York Post-Graduate Medical School.

As an operator in gynecological surgery, he was remarkably neat and expeditious, felicitous in resources, and rarely, if ever, at a loss in treating an unforeseen emergency.

His records in abdominal operations of the severest grade were excellent; and among his later contributions to gynecology are a hysterectomy clamp and a tenaculum scissors for trachelorrhaphy—each, perhaps, the best of its kind in use.

Although his later days were clouded by illness and domestic misfortune, no one who knew Dr. Dawson and enjoyed his friendship at an earlier date can remember him otherwise than affectionately.

Exceptionally handsome and elegant in his appearance, with genial manners and agreeable conversation, generous in his hospitality, and devoted to his friends, he will long be held in their kindest recollection.

CHAS. CARROLL LEE,

PAUL F. MUNDÉ,

*Committee.*

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

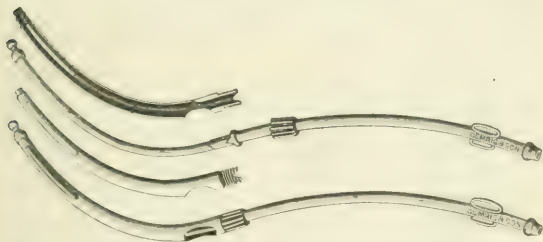
*Thursday, March 1st, 1888.*

THOS. M. DRYSDALE, M.D., *in the Chair.*

DR. H. A. KELLY exhibited

AN ASEPTIC TWO-WAY UTERINE CATHETER,

which he had modified from Bozeman's, which will conduct and



discharge fluid with the utmost freedom, and at the same time allow of perfect and ready cleansing.

Dr. Kelly also exhibited

A COTTON PACKER.

Its use is simply to pick up a loose wad of cotton placed near the vaginal outlet, and with the vagina properly exposed and the uterus redressed, to carry it up into place in the fornices and pack in one wad after another with perfect exactitude and any degree of firmness required. It is made of a delicately tapering handle, which balances nicely in the hand, terminating in three diverging tips, a little flattened on the upper and under surfaces.

DR. B. C. HIRST exhibited

THE PLACENTA FROM A CASE OF UNIOVAL TWINS.

It was very large in extent, having about twice the ordinary dimensions of a placenta. It formed one mass, with the most intimate anastomosis between the two sets of fetal vessels. There was in this case hydramnion of one fetal sac.

Dr. Hirst also showed

A PARIETAL BONE PRESENTING A SPOON-SHAPED DEPRESSION.

It had been taken from an infant that died about two days after birth. The labor had been a difficult one, terminated by the forceps; the child had presented by the vertex in R. O. P. position; the pelvis was slightly flattened, head large, O. F. circumference thirty-six and a half centimetres. At the corresponding point internally, there was a deep, broad depression of the brain substance. The child apparently died from congestion of, and serous effusion into, the brain.

DR. WM. GOODELL remarked that Ambrose Paré had compared these depressions to the indentation on kettle-drums. The indentation in this case was very typical. After turning in the flat and narrow pelvis, these indentations were very marked. They occupied then the temporal region, and not the parietal, the shorter bitemporal diameter being the one implicated. Hence, in turning, two mechanical advantages resulted, the small end of the cephalic wedge offered at the conjugate and also a cephalic diameter shorter than the biparietal.

DR. JOHN C. DA COSTA wished to know if Dr. Goodell thought turning could always be done in these cases. He spoke of a case which had occurred in his practice where the bone was much more depressed than in the specimen shown. The whole left side of the head was bulged in by a large fibroid of the uterus which fitted into the depression like a mortise and tenon joint. The pelvis was of good shape and roomy—os uteri wide open and soft, and yet the head, which was at or above the superior strait, in L. O. A. position, would not descend on account of the tumor. As the woman was in good condition, and nothing seemed to be going wrong, he let her alone for a time. After a little while, by the aid of some manipulation, the head began to unlock from the tumor, and rotated from O. A. to O. P. position, and the child was delivered alive.

This case could not have been turned (as membranes had ruptured and uterus gripped the child's body itself), and even if it could have been, there would probably have been a dead baby from pressure on the cord during the long delay that would ensue in delivering the head, as the tumor would most likely have locked under the baby's chin. The forceps could not be put on, on account of obstruction to the left side by the tumor.

DR. GOODELL thought that Dr. Da Costa would have had less trouble if he could have turned the child. He did not think the neck would have been caught. He had been speaking before of the mechanical advantages only, and not of the difficulties in the performance of version.

DR. W. S. STEWART exhibited his

IMPROVED OBSTETRIC FORCEPS WITH PARALLEL HANDLES.

The advantages of this improvement, as experience has demonstrated, are summarized as follows:

- 1st. The application of either blade first.
- 2d. The impossibility of the blades slipping when properly applied.

3d. Moderate and even compression, the degree of compression being regulated by the amount of resistance.

4th. Greater facility for making traction.

DR. H. A. KELLY had examined these instruments with a great deal of interest, and was surprised how the difficulty of parallel handles had been overcome. He, however, thought that the axis-traction principle should have been added to them.

DR. BALDY was not particularly fond of using forceps of any kind, and had often seen a head delivered spontaneously, on which the use of instruments had been urged. However, there were cases where the instrument became necessary, and in such cases it was desirable to have as perfect a forceps as possible. In the forceps presented, he had no objection to make to the parallelism of the handles, but thought that a very serious objection was to be found in the so-called toggle-joint. With this instrument as it stood, there was no possible way of regulating the compression force applied to the child's head, and although Dr. Stewart had not yet marked or injured a child, he would surely do so sooner or later, if he continued their use. He thought, with Dr. Kelly, that the axis-traction principle should be applied to modern obstetric forceps.

DR. G. E. SHOEMAKER had, on a previous occasion, called attention to the dangerous compression power developed by the toggle-joint, spoken of by the last speaker. He thought that, to make the instrument safe, there should be an adjustable attachment, such, for instance, as a sliding ring about the handles, to limit at will the compression force, as the present shoulder was fixed, and was too far back.

DR. LONGAKER found serious objection to the number of joints on the instrument, making it so difficult to keep aseptic. He did not think the Simpson forceps could be improved on.

DR. STEWART was surprised at the number of objections found with his instrument, as well as at the doubts expressed as to the results in using them. He had now delivered eight children with them without injury. He could deliver cases with his instrument which could not be delivered with any other made. The members must take his word for the results obtained thus far or go with him, and see if there were any evidence of injury to any of the children, as all of them are living on whom the forceps were used.

Dr. Longaker presented the following for DR. HOLMES:

#### DERMOID CYST.

Mrs. B., 50 years, married at 15 years, nulliparous, menstruation always scant and painful, is remarkable on account of series of reflex symptoms, of death from exhaustion and from pain, without organic disease other than ovarian, and of simplicity of operation needed, as revealed by autopsy.

Mrs. B. consulted me April, 1886, having been treated elsewhere for muscular rheumatism. Pains were of lancinating character along left sciatic, shooting down to ankle; examination showed ovarian tumor, probably cystic. Prof. Goodell confirmed diagnosis and advised operation, which patient then and subsequently refused. The chief complaint was at first the pain posteriorly along



left leg and thigh, which finally also involved similar relations on right side. In the course of a few months, a persistent tremor attacked both lower extremities, at first alleviated by manual pressure, subsequently not, and later still extended to arms and hands, and later yet to muscles of face and lips, giving much the appearance of violent chorea, interfering markedly with clear enunciation.

During the latter part of life there was oft-repeated and painful micturition, with bloody urine, with violent pains starting in lumbar region and shooting along into the bladder and urethra, raising a strong suspicion of renal calculus.

This, with the other lancinating pains, the tremors and nervous exhaustion consequent upon the many months' illness, caused great suffering, the patient often wringing her hands and grasping her hair in agony. Hypodermics of morphia,  $\frac{1}{4}$  and  $\frac{1}{2}$  grain, gave markedly greater relief than same doses by mouth or rectum, even frequently repeated. The apparent increase of tumor was very slow.

Autopsy indicated only slight omental adhesions: kidneys healthy. The bladder, uterus, and the two attached cysts were removed a few hours after death. The dermoid cyst has a long, slender pedicle attached to the left cornu uteri. It was situated on the right side of the spinal column, opposite the third and fourth lumbar vertebrae, covered by loops of small intestine and by omentum, to which latter it was slightly adherent. It was at first supposed to be a floating kidney which had undergone conversion into a cyst. Its size, shape, and location were suggestive of such an origin. The cyst contained chocolate-colored sebaceous matter, no hair or teeth. The wall contained calcareous plates. The right ovary is the seat of a multilocular cyst, the size of an average full-term fetal head. The corpus uteri is undeveloped, the cervix constituting the larger portion of the organ. Evidences of chronic cystitis were present.

DR. M. PRICE said that this question was coming up daily: cases of pelvic disease were being constantly treated by the general practitioner for malaria, rheumatism, neuralgia, and other kindred diseases, without making any investigation into the actual condition of the patient. In fact, malaria is becoming extremely fashionable, when there is no apparent reason for the condition. He was then treating a case of ovarian disease in a lady now 47 years old, was married at 15 years, contracted gonorrhea from her husband at that time, has ever since remained sterile, with scant menstrual discharge, and great pain from the approaches of her husband, sometimes the pain being agonizing. She suffers at times from severe pain running down the left leg. Upon examination, the ovary was found to be as large as an orange, excessively tender, and when pressure was made in bimanual examination, the patient went into convulsions on the table. He did not know what relation this condition may have had in connection to the trouble in her early married life; of this he was sure, that it was the cause of her barren condition.

DR. LONGAKER also exhibited

THE POST-MORTEM SPECIMENS FROM A CASE OF CARCINOMA UTERI.

The following brief notes of this case are presented for Dr. J. S. Gibbs. L. A., married, æt. 39, always enjoyed good health until five years ago, when her last child was born. Since that time she had suffered much from pelvic pains. Menstruation had been excessive. Patient first seen in June, 1887, when a diagnosis of carcinoma of the cervix was made. The disease had invaded the vaginal walls and the pelvic cellular tissue.

From this date, I saw no more of the case until February 6th, 1888. She had been free from pain, but hemorrhage persisted. Vaginal examination revealed advance of the disease. It provoked such a profuse hemorrhage that applications of Monsell's solution were required to arrest it. When the hemorrhage was under control, pledgets of cotton, saturated with terebene and olive oil (one-quarter), were packed against the cervix according to the plan of Betrin, of Geneva. This medication diminished the offensive odor, but I strongly suspect it had something to do with the rather untimely demise of the patient.

In a few hours from the time of the application, she sank into a somnolent state, from which it was difficult to arouse her, with almost complete suppression of urine and strangury, and death in thirty-six hours.

A peculiarity of the case was absence of cachexia and emaciation.

Autopsy: The cervix was extensively infiltrated and ulcerated. The corpus shows a few nodules. The ureters are dilated, as are also the pelves of the kidneys.

DR. G. E. SHOEMAKER thought that the statement that death was probably due to an application of terebene should be carefully considered. He was constantly using and observing the use of the drug internally in much larger quantities than could be absorbed from such an application, without sign of irritation. Might not the death from uremia have occurred independent of its use?

DR. LONGAKER believed that the application of the terebene did hasten death. The strangury and suppression came on quickly after it had been used. The case lacked some of the ordinary symptoms of uremia.

DR. WM. GOODELL exhibited

A SPECIMEN OF CONJOINED TWINS,

which had been presented to him by Dr. Junius F. Fuller, of Roxborough, N. C.

The specimen was a perfect one—the bodies were united at the hips, and there were three feet in common. Some years ago, an analogous living specimen of conjoined twins was on exhibition in this city, and he had brought them before his class at the University and had given a lecture upon the subject. From investi-

gations then made he found that this form of conjoined twins was not a very rare one, as Aldrovanus and other old writers had described and figured them. The specimen which he presented must have been aborted at the third month of utero-gestation.

Dr. Goodell also presented

#### A SPECIMEN OF HYDRO-SALPINX.

It was the largest specimen he had ever seen, although he had met with much larger specimens of pyo-salpinx. The case had been treated by many gynecologists, and the true condition had not been recognized. There had followed the operation a complete relief from pelvic pains, but menstruation had continued up to the present time. The periods were, however, becoming less frequent. Since it was contended by some eminent surgeons that, when menstruation continued after the removal of the uterine appendages, some of the ovarian stroma must have been left behind, he wished to call the attention of the Society to the complete extirpation in this case of both ovaries and tubes. Although the former were more or less adherent, it was evident from the specimen that not a particle of ovarian stroma was left behind.

DR. M. PRICE said he had seen two cases in his practice where the menstrual discharge did not cease after the removal of the appendages. In one case it lasted for a year and a half; in the other, six months. He had no doubt but that Dr. Goodell's case would show the same result. There was but little doubt in the mind of most operators that the removal had not been complete.

Officers of the Society for the ensuing year:

*President*: Thos. M. Drysdale, M.D.

*Vice-Presidents*: Chas. H. Thomas, M.D.; J. C. Da Costa, M.D.

*Secretary*: J. M. Baldy, M.D.

*Treasurer*: Alfred Whelen, M.D.

*Curator*: T. Hewson Bradford, M.D.

— — —  
*Thursday, April 5th, 1888.*

THOS. M. DRYSDALE, M.D., *in the Chair.*

DR. T. M. DRYSDALE reported a case of

MULTILOCULAR PAPILLOMATOUS TUMOR OF THE BROAD LIGAMENT PRODUCING OBSTRUCTION OF THE BOWEL. OPERATION. DEATH FROM UREMIA. AUTOPSY DISCLOSING ONE KIDNEY CONVERTED INTO A CYST AND THE OTHER DISEASED.

At the request of her physician, Dr. A. G. B. Hinkle, I was sent for Jan. 7th, 1888, to see Mrs. M. I. K., a widow, 54 years old. She stated that she was the mother of seven children, and that her labors had invariably been hard and tedious, accompanied with violent abdominal cramps. The menopause occurred when she was 46 years old. She had always been strong, worked hard, lifted heavy weights, and had had no sickness in thirty-five years, until last

March, when she was seized with intense pain in the abdomen, together with obstinate constipation. She continued to suffer for several weeks, and her physician had great difficulty in getting the bowels moved. Medicines had so little effect that her life was despaired of, but she was finally relieved by copious purgative injections. Her disease was at first supposed to be owing to sewer gas poisoning, as her son suffered in a similar manner at the same time, and they were treated accordingly; but finding they did not improve, a consulting physician made a more thorough examination, and found well-marked blue lines on their gums. They were then treated for lead colic and soon recovered. The son had remained well ever since, but she had suffered from colic and constipation, while the abdomen had continued permanently swollen. Her bowels never moved satisfactorily, as only a portion of the contents seemed to come away, leaving the upper part of the intestine full. Last August she first felt a hard tumor low down in the right side. Her abdomen since then had increased rapidly in size, while the rest of the body emaciated. Her appetite had been good and she had no pain after her meals, but felt too full to eat much. She had constant eructations but no vomiting. Until recently she had a slight daily movement of the bowels, but for several days past she had had no evacuation. During all this time she had suffered from what she supposed was colic, and, in fact, was never free from pain. Just before I saw her, she had taken a dose of castor oil, and at my first visit was in great agony at the distention.

She was thin and anemic, and her complexion had the cachectic appearance of malignant disease. The centre of her tongue was red and smooth. The abdomen was greatly enlarged and resonant on percussion everywhere, except below a line half-way between the umbilicus and pubis; there it was dull, and fluctuation could be detected. In the right iliac region I found a hard, nodulated tumor, which appeared to be moderately movable, but so rigid was the abdominal wall that it was difficult to determine this with certainty. The bladder was prolapsed and projected between the thighs, but the uterus remained within the shortened vagina and was held up apparently by being fixed to the tumor. The uterine sound entered two inches and passed to the right. As well as could be made out, the uterus and tumor were closely adherent. Rectal examination revealed a firm, immovable tumor occupying the upper part of the pelvis. The examination, although made with the utmost gentleness, caused great pain. As frequency of micturition was a prominent symptom, Dr. Hinkle had more than once examined specimens of her urine, but, finding nothing abnormal, concluded that the irritation was owing to the prolapse of the bladder. As usual before an operation, I also examined two specimens of the urine and found it free from albumin and sugar, with

a sp. gr. of 1.20. She assured me that she passed the usual quantity.

The oil operated and gave her relief for twenty-four hours, but after this she grew rapidly worse, the symptoms of obstruction of the bowels increased, and by January 17th, just ten days from my first visit, I was again sent for and found that she had been in such continual agony that she had concluded to submit to an operation. The abdomen was extremely hard, and in place of being tympanitic was everywhere dull on percussion, and fluctuation was general, showing that a rapid effusion of fluid had occurred.

In the presence of Drs. Hinkle, James F. Wilson, I. Howard Beck, and G. B. McCracken, and assisted by my son, I operated January 22d, 1888. The incision was followed by the escape of about a gallon of ascitic fluid. The peritoneum was slightly inflamed and in some parts thickened. The growth proved to be a multilocular papillomatous tumor of the broad ligament. It filled the lower part of the abdomen on the right side and occupied the upper portion of the pelvis. Its color was not the opaque white of an ovarian cyst, but resembled in this respect the intestines. The main cyst extended upwards as high as the border of the lower ribs. To this the omentum and a loop of intestine were firmly adherent. These adhesions were detached and the cyst drawn forward. As this was being done it burst and discharged a large quantity of red serous fluid, for, as usual, the cyst walls were very thin and easily ruptured. Two other large cysts below this were tapped, which greatly reduced the size of the tumor, but a mass of others remained, filling the upper part of the pelvis, to which they were firmly adherent. This was the portion which, by pressing on the bowel as it passed the pelvic brim, obstructed it. Here it was difficult to separate the tumor from the surrounding structures without injury to them, for it was adherent to the bladder, bowel, and everything it touched. After freeing it from all its other attachments without doing mischief, save to some vessels on the floor of the pelvis, which bled profusely, I found it was firmly bound to the uterus, which it dragged down and held close to the anterior wall of the pelvis, deep down on the right side, by an exceedingly short, firm and vascular attachment or pedicle, which I ligated with great difficulty, owing to its depth in the parts. The tumor, with its capsule, was then removed. This revealed a set of bleeding vessels below the pedicle, which were secured after considerable trouble. Before closing the wound, the abdomen was thoroughly cleansed by irrigating it with warm water which had previously been boiled. The operation was tedious, lasting over an hour, and through it all the pulse was well maintained; but it was followed by a profound shock, shown in the pale face and thready, almost imperceptible pulse. As soon as she became conscious she complained of intense pain in the back. Under the use of stimulants and the external application of heat she reacted in about an hour.



At 5 P.M., four hours after the operation, the nurse applied the catheter, and removed an ounce and a half of urine.

At 8 P.M., Dr. Hinkle and I visited her and used the catheter, but the bladder was empty. Her pulse was 112, temperature  $100\frac{1}{2}^{\circ}$ , which was the highest it reached. She complained of feeling sore all over. To relieve the suppression of urine, we ordered a mustard plaster, made with warm water, to be applied over the kidneys, and prescribed a tablespoonful of the following mixture, well diluted with water, to be taken every four hours:  $\mathcal{R}$  Potassii acetatis,  $\frac{3}{4}$  ss.; Spiritus etheris nitrosi, fl.  $\frac{3}{4}$  ss.; Aquæ destillatæ,  $\frac{3}{4}$  iiiss.

10:30 P.M. She vomited for the first time.

12:15 A.M. After an ounce of urine was drawn, she became restless and complained of severe pains in the abdomen, which continued until Dr. Hinkle was sent for at 2:15 A.M. He found her with a pulse of 94 and temperature of  $100^{\circ}$ , and gave her a hypodermic injection of one-sixth of a grain of morphine. After this, she slept until 5:30 A.M., when the nurse drew her urine and obtained  $\frac{3}{4}$  ss.

Monday, 10:45 A.M. Pulse 118, temperature  $98^{\circ}$ . Since 7:30 A.M. had been in pain and had vomited several times. The catheter had just been used and about a teaspoonful of urine drawn. The abdomen was tympanitic, but not tender on pressure. The rectal tube was used, which permitted a large quantity of flatus to escape. After this, the diuretic was used by injection and retained. We directed one drachm of Rochelle salt to be given every two hours, and to have a hot vapor-bath.

2 P.M. Pulse 130, temperature  $97^{\circ}$ . Had vomited everything. A quarter of a grain of calomel and a tablespoonful of very hot milk were then given every hour. This quieted her stomach. At 4:50 P.M., one ounce and a half of urine was drawn. She continued drowsy, but did not sleep.

9:30 P.M. One drachm of urine was removed.

Tuesday, 10:30 A.M. Pulse 130, temperature  $96^{\circ}$ . Skin cool and pale. The catheter had been used at 2 P.M., and at 9 A.M., and each time about a teaspoonful of urine was obtained. The stomach continued quiet until 8 A.M.; then she vomited occasionally. Stimulants were used by the rectum, but she continued to sink, and died at 6 P.M.

The autopsy was made the next evening by Dr. McCracken, who kindly furnished me with the following notes of it: "The wound in the abdominal wall was firmly united throughout its whole extent. A moderate amount of peritonitis existed, confined principally to the lower part of the anterior abdominal wall and the lower coils of intestines, which were covered with a thin layer of pus. This was the portion of the peritoneum which was found inflamed when the abdomen was opened at the operation. The pedicle and surrounding parts from which the tumor was de-



tached were in excellent condition. The right kidney was sought for, but could only be detected after a prolonged search, when it was found to have been converted into a large, elongated cyst, only a small portion of the upper part of the organ remaining unchanged. It resembled a distended bowel so closely that it was difficult to distinguish it from the surrounding intestines.

"The left kidney was enlarged and intensely congested. When the adherent capsule was removed, the surface of the gland presented the rough granular appearance of inflammation. There were a number of small cysts in the cortical substance."

This case presents several features of interest, one of which was the steady decline in temperature from  $100\frac{1}{2}$ ° on Sunday to  $96^{\circ}$  on Tuesday morning, but I have brought it before you mainly for the purpose of showing how we may be deceived in regard to the condition of the kidneys, even when all signs of disease are absent in the secretions. This patient's life was dependent upon the active exercise of one organ, which itself was diseased and struggling under the load thrown upon it as the only eliminator of its kind in the body. It naturally followed then that, when the toxic effect of the ether was added to its burden, it yielded and the patient died.

DR. PARISH spoke of the toxic effect of ether on diseased kidneys and wished to know whether Dr. Drysdale had been able to determine the renal condition in his case. He had, some years ago, had a case of Porro-Müller operation in which there was parenchymatous renal disease, and in which death resulted from acute suppression of urine. It was a serious question as to what anesthetic we should use under similar circumstances. The tumor presented by Dr. Drysdale was peculiar for a cyst of the broad ligament, on account of the large amount of solid matter connected with it.

DR. J. PRICE said there was but one authority who made any mention of the condition of the temperature under ether. Some years ago, Dr. Burk had taken the temperature of a large number of patients under the anesthetic, and found that there was invariably a depression of from one to two degrees due to cessation of combustion. The symptoms of obstruction of the bowels, as presented by Dr. Drysdale's case, were very characteristic. He had lately been dealing with some very trying cases of this kind, and pain was always present and very severe; in several cases, shock and collapse had been marked symptoms of the obstruction.

DR. DRYSDALE did not think that the decline in temperature was due to the anesthetic, but believed it depended upon the uremia, as he had repeatedly noted a similar depression in advanced stages of Bright's disease. The urine had been examined several times and nothing found to indicate disease of the kidneys; in fact, there was not a single symptom present to excite suspicion of trouble in these organs, except the constant inclination to micturate, for which the prolapsed bladder was sufficient to account.

DR. HAMILL read the following notes on

## PLACENTAL APOPLEXY.

In the earlier stages of placental development the maternal capillary loops thrown into a net-work around the chorionic villi not infrequently rupture, with a consequent effusion of blood over a greater or less area, and at a later period of intra-uterine development the blood current in the inter-villous blood spaces, at all times sluggish, may become so very slow that the blood coagulates and at birth there may be seen a clot of varying extent, more or less perfectly organized, and in some cases presenting just the laminated appearance that one sees in an aneurism undergoing obliteration.

Rupture of the umbilical vein in the cord with a rather extensive effusion of blood has also been noted, but here the quantity of blood that can escape is of necessity limited to the comparatively small capacity of the cord. In the case that I would report to the Society, the apoplexy of the placenta was of fetal, instead of maternal, origin; the ruptured vessel was one of the large branches of the umbilical vein running across the fetal surface of the placenta, and the quantity of blood effused must have left the fetal body absolutely exsanguined. All these circumstances make the specimen a rare one, the last two make it quite unique as far as my knowledge goes. An extended search through medical literature has failed to show me a similar case. Unfortunately, I am unable to find a cause for the rupture of the blood-vessel, there was nothing in the condition of the fetus, nothing in the history of the mother that would account for it.

DR. HIRST was greatly pleased to see the specimen, and thought it unique. There was one somewhat similar described by Baudelocque.

DR. KELLY remarked that he had in his possession the placenta and membranes from a case recently delivered, in which moderate traction of the cord, after separation of the child, resulted in a large hemorrhagic extravasation between the placenta and the amnion. This was found upon careful examination to come from a minute rupture in the vein on the placental part as it left the cord, about two millimetres in length and transversely to its axis.

DR. J. PRICE had recently had a case in which death to the fetus had occurred from pure hanging. The cord was twice wrapped around the child's neck, and there was a deep indentation in the fetal tissues. The cord was shortened at least one-half.

DR. HAMILL also read the following:—The occurrence of

## MORNING SICKNESS IN THE HUSBAND

after the fact of pregnancy is known or suspected, I have frequently noted. The case I would report is unique from the fact that the sickness appeared in the husband at such an early period of pregnancy. Two weeks after the appearance of menstruation for the last time, the husband had daily morning attacks, and not until it was time for the next menstruation had the woman any other evidence that conception had taken place, and then she failed to

menstruate. The husband continued having the attacks for two months. During the previous pregnancies the husband had suffered from the same attacks, but not until they were both cognizant of the fact.

DR. W. M. GOODELL remarked that Sir Francis Bacon had written some lines on this subject, the substance of which was that "loving husbands so sympathize with their pregnant wives that they have morning sickness in their own persons." A writer in the *Lancet* of May 4th, 1878, p. 666, also refers to a case in point, which occurred in his own practice. In this case the husband's nausea and vomiting began and ended with his wife's.

DR. PARISH presented the specimen of

#### A STRANGULATED OVARIAN CYST

and said:

The patient was not aware that anything ailed her until one night she was seized with intense abdominal pain, and jumping out of bed, rushed about the house, screaming with her suffering. Dr. J. H. Musser was sent for, and gave her a hypodermic injection of morphia. The dose had to be repeated frequently, and in two days the pain began to subside, it being altogether gone in five days. The temperature remained nearly normal until the fourth day, when it was found to be  $103^{\circ}$ , and was the same on the next day, the day of operation. A notable fact is that the temperature and pulse both rose steadily, while the pain as steadily decreased, after the third day. I saw her on the fourth day, and agreed with Dr. Musser that we had an ovarian tumor with a twisted pedicle to deal with. Because of the absence of the husband, the operation was not performed until the next day, January 17th, 1888. The tumor was found to spring from the left ovary, and was very black, in this respect differing entirely from an ordinary ovarian cyst. The contents were those of an ordinary cyst, with coagulated blood in addition. The pedicle was twisted three times, and was quite soft and black. After emptying the tumor, he untwisted the pedicle and transfixed it below the point of twist, and the tumor was removed. The recovery was very rapid, the temperature going down steadily. The drainage tube was removed on the second day. The patient is now entirely well.

Twisting of the pedicle is a well-recognized accident to ovarian tumors, but the cases do not all present such marked changes as this case did. The specimen as it lay on the plate presented a very marked contrast to the cyst lying beside it, and which had been removed a few days before from the broad ligament.

In connection with this case he would report one operated on three months ago. The woman had complained of sudden intense pain in the pelvis and was confined to her bed from that moment; she had remained in bed for over two months with general peritonitis. A number of physicians had attended her and one of them had introduced an exploring needle into the abdomen, she

was extremely exhausted and had a constant temperature of 103° or higher. An incision was made above Poupart's ligament and opened into a tumor. It was found to contain pus and coagulated blood. Its cavity was cleaned out and the incision closed around a drainage tube. The cyst walls were very thick. It was a blood cyst, but it could not be determined at the time with certainty whether it was intra or extra peritoneal, but it was believed to be intra-peritoneal. In three days strangulation of the bowels developed with fecal vomiting. The bowels could not be gotten open and a second operation was proposed on the next day, but was refused by the friends. On the day after, however, a second incision was made from a point under the spleen towards the old incision above Poupart's ligament. There was a distention of the abdominal walls in the lumbar and hypochondriac regions. Great pain under the spleen had developed. The intestines were found adherent in a mass and three large bands were found to extend from the region of the spleen to the right inguinal region. The adhesions were broken up and these bands were ligated and cut off. No irrigation was used. The whole wound was closed and a large piece of adhesive plaster was placed over it to protect it from the discharges from the lower and first incision. Convalescence was a slow one, but had finally terminated satisfactorily.

Dr. HIRST reported two cases of

#### HYDRAMNION.

The etiology of hydramnion is so obscure that, according to Bar, forty-four per cent of all cases admit of no explanation; every case, therefore, that can be traced to a distinct cause must possess some degree of interest.

*Case I.*—A young primipara was brought to the Maternity Pavilion of the Philadelphia Hospital in the first stage of labor. External examination showed an enormously distended abdomen, of a globular shape, giving distinct fluctuation. Internally the os was about the size of a dollar, an amniotic sac, very tense, filled up the greater part of the pelvis; to one side and above this could be felt a small fetal head, evidently macerated, covered by its membranes with no intervening liquor amnii. The diagnosis was plain. Twin pregnancy; hydramnion of one amniotic sac, which was acting as an obstruction to labor by preventing the descent of the fetus contained in the normal sac. The distended sac was ruptured, the edges of the rubber sheet upon which the woman lay were gathered up and all of the escaping fluid was caught. It measured five quarts. The macerated fetus was soon expelled and a living one followed soon after. The latter corresponded in development to about the eighth month of pregnancy; the former had apparently died at an earlier period of intra-uterine life. The woman said that until within five weeks she had noticed nothing unusual in her condition, but that since that time her

abdomen had rapidly increased in size, without, however, causing her much inconvenience. To explain this case of hydramnion, Werth's theory must, I think, be called upon. According to this observer, an hypertrophied placenta, in absorbing more fluid from the maternal blood than the fetal economy can dispose of, brings about hypertrophy of the fetal heart and kidneys and a consequent polyuria. And in addition to this the increased pressure within the umbilical vein favors a transudation of fluid through the amniotic covering of the placenta. In the case under consideration the placenta was quite double the size of a normal single one, with anastomoses between the two sets of fetal vessels. One fetus having died, the other was suddenly called upon to deal with the very large quantity of fluid abstracted from the maternal blood by an enormous placental surface—an impossible task, so that the excess of liquid had to be gotten rid of by excretion and transudation into the amniotic cavity.

HYDRAMNION IN A MULTIPARA WITH SERIOUS MITRAL REGURGITATION AND AORTIC STENOSIS.—THE QUANTITY OF LIQUOR AMNII WAS ESTIMATED TO BE FOUR QUARTS.

*Case II.*—If one accepts Tarnier's idea, all cases of hydramnion may be divided etiologically into two broad classes, depending either upon overproduction of liquor amnii or upon insufficient absorption of the amniotic fluid. In the latter division it would seem that one should put this case. The veins were choked with blood, the circulation was sluggish to a degree, and if it is true, as it seems to be to my mind, that some of the liquor amnii is absorbed by the maternal vessels, the absorption here was reduced to a minimum.

Dr. Hirst also presented the following report:

I was recently called by a medical student to see a woman with an

ADHERENT PLACENTA AND POST-PARTUM HEMORRHAGE.

I found the patient almost exsanguined and the fetus dead. The woman's friends declared that the baby had been born while the mother was on her feet, had dropped upon the floor and had been killed by the fall; they further asserted that the after-birth had not come away. A vaginal examination showed no trace of cord or placenta; the hand, however, passed into the uterus, discovered the placenta glued fast to the uterine wall, and so tightly adherent that considerable force was necessary to detach it. The cord had been torn away from the fetal surface of the placenta, leaving a spot about the size of a dollar bare of amnion; the large branches of the umbilical vein were torn across.

Dr. WM. GOODELL read a report of his cases of

LAPARATOMY DURING THE YEAR 1887;

he had fifty-three of them, as follows:

Ovariectomy—27 cases, 22 recoveries, 5 deaths.



Oöphorectomy—19 cases, 18 recoveries, 1 death.

Hysterectomy—1 case, 1 recovery.

Malignant tumor of omentum—2 cases, 1 death.

Pelvic abscess—2 cases, 2 recoveries.

Exploratory incision—3 cases, 3 recoveries. Total, 53 cases, 46 recoveries, 7 deaths.

With regard to the fatal cases: the first one was a case of malignant papillary cyst of both ovaries, by which every abdominal organ seemed to be affected. Bleeding intestinal adhesions needed several ligatures and the application of Monsel's solution. Insurmountable obstruction of the bowel took place and the woman died on the seventh day.

The second fatal case was in an exceedingly fat woman, weighing 254 pounds, who could not walk without assistance. The area of raw surface made by the deep and long abdominal wound was the most extensive Dr. Goodell had seen. Both ovaries being diseased, were removed; they had contracted adhesions to the abdominal wall, and the larger weighed only about twenty pounds. The lady was operated on at her own home in the country, and was not again seen by Dr. Goodell. She died on the fourth day from peritonitis.

The third case was a forlorn hope. At the time of the operation she had septicemia, was delirious and very ill indeed, and suffered great pain. By her shrieks she disturbed one whole floor of the University Hospital, although she was on that account confined in a remote room. The cyst was intra-ligamentary and was adherent to the abdominal wall, the intestines, the stomach, the aorta, the womb, and to the whole pelvic basin. All the adhesions but the pelvic ones were severed: but the latter were not touched, as the woman seemed to be dying, and it was apparent that she could not survive the shock of a completed operation.

The fourth was a bedridden and very emaciated woman, in whom the cyst had burst several weeks before, and she was being slowly poisoned by the absorption of the colloid matter. The cyst had universal adhesions and every abdominal organ seemed infected. The peritoneal cavity was flushed and drained. The patient died on the eighth day from sheer exhaustion. The fifth death took place in a case of putrid and rotten dermoid cyst. The woman was also bedridden from septicemia. During the operation, while very firm adhesions were being severed, the cyst wall was torn and a very small quantity of the offensive fluid escaped into the abdominal cavity. This was flushed and drained, but the lady died on the fifth day from septicemia.

Of the nineteen oöphorectomies there were an unusual number of difficult cases, both on account of adhesions and of the size of the fibroid tumors, for which the ovaries were removed. In the sole fatal case, death was due to uremia from suppression of the urine, unsuspected kidney mischief probably having previously existed.



Of the seven remaining laparotomies, one resulted in death on the forty-eighth day. It was a case of malignant solid tumor of the omentum, causing ascites and excessive pain, from which the patient had been confined to her bed for many weeks. The great vascularity of the parts and the very extensive adhesions to the bowels made the operation a difficult one. For two weeks the patient did well, then large abscesses burst out of the wound and into the intestines, and the drain destroyed her life on the forty-eighth day after the operation.

In the two cases of pelvic abscess, the sac was sewed to the lips of the abdominal wound and a drainage tube put in. In the case of hysterectomy, a two-pound subperitoneal fibroid of the wound was removed, on account of pain and vesical irritation caused by it. The three exploratory incisions were made respectively for sarcoma of the womb and ovaries; for malignant disease of the intestines; and for a fibroid of the womb. In the last one it was the intention to remove the ovaries, but on account of very firm and deeply-seated adhesions, those organs could not be reached. In the other two cases of the exploratory incisions, malignancy was suspected, but the operation was performed to make out a positive diagnosis.

Among the twenty-seven ovariectomies there was a larger number of difficult cases than usual; nor had he refused to operate in any case offered him. In sixteen both ovaries were removed. Twenty-three had adhesions and drainage was resorted to twelve times. In three the adhesions were universal; in six firm intestinal adhesions existed; while in three the cysts were intra-ligamentary, presenting very formidable obstacles to their removal. In one of these last cases, the result was successful, although the wound had to be reopened four hours later to stop a deeply-seated hemorrhage, and although a fecal fistula was established by injury to the rectum.

DR. KELLY remarked that he had been especially pleased with the careful consideration given by Dr. Goodell, in the handling of abdominal cases, to certain points which were too often looked upon as minor matters in the treatment, but are after all the *essentials* of success. (One of the most important of all matters is checking the hemorrhage from adhesions to intestines, etc. A satisfactory way of checking the hemorrhage from similar cases on the abdominal wall is by passing a needle under the peritoneum and carrying several threads across the bleeding area, and upon tying these threads, bring raw surface to raw surface. He had seen Dr. Zweifel, of Leipsic, invert a *large* bleeding area on the abdominal wall, and transfixing skin, muscles, and peritoneum from without, fasten a number of sutures to ivory rods on either side of the skin flap thus formed. He had frequently used the cautery, in times past, but not recently. In a recent case of severe general hemorrhage from the base of the whole broad ligament after removing a distended Fallopian tube, he had checked the bleeding by a series of ligatures inclosing the whole broad liga-

ment from its pelvic attachment to the uterus, introduced entirely beneath the raw surface.

A particular point of the utmost importance upon which he would insist is that when the bleeding is checked all the danger is not obviated, where there has been much stripping of peritoneal adhesions, in spite of the fact that the bleeding may have been checked. A lymph flow, sometimes profuse, is often passed into the abdomen; if it is not carried off at once by the peritoneum it forms an excellent culture field for the few bacteria which are almost sure to enter at any operation. The drainage tube meets this danger.

He has had a good many cases of rectal fistula which have been very troublesome, but the tendency here seems to be to heal. The peculiar liability of pus cases to this accident is readily accounted for by the tendency of the abscess to form rectal adhesions and ulcerating through, to evacuate itself. In many cases the wall between the abscess and rectum must be very thin. The best after-treatment in abdominal cases is to put them in the hands of a trained nurse, and leave much to her judgment.

DR. GOODELL liked to give credit to his fellow-countrymen whenever he could, and if he was not mistaken the credit of first doubling peritoneum on itself and maintaining bleeding surfaces in contact by pins or by quill sutures, was due to Dr. Kimball, of Lowell, Mass. Several years ago Dr. Goodell had resorted to this plan, but not since he had used Monsel's solution or the thermo-cautery.

---

## TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

---

*Stated Meeting, January 20th, 1888.*

DR. S. C. BUSEY, *President, in the Chair.*

DR. THOMAS C. SMITH read the paper of the evening :

### CASES IN GYNECOLOGICAL AND OBSTETRICAL PRACTICE.<sup>1</sup>

DR. BROMWELL said that the first case of Dr. Smith's series was certainly unique. He was not surprised that the accident should have occurred in a part as movable as the male organ. The case, however, was instructive. Accidents have occurred from the tents breaking in the cervical canal. His plan is to pass the string through the tent from its base to its apex and then bring it down on the outside and tie it around its base. Then there is but little danger of its breaking ; but if it does, the string will draw out the fragments. He was opposed to the introduction of the tents into the cervix after incision. He had been using sponge and laminaria tents for the past fifteen years and had never had an accident. He had observed caution and antiseptic measures.

<sup>1</sup> See Original Articles in this number.

No force should be used in its introduction; it should be bent to conform to the cervical canal, and only allowed to remain in twelve or at most twenty-four hours. The end should only be introduced far enough to dilate the os internum. If tents are used after incisions of the cervix, there is greater danger of lymphangitis and septic peritonitis from the decomposition of blood-clots and the introduction of septic material. He had found better results from the introduction of a number of small laminaria tents than when one large one only was used. He had about discarded the tent for dilating the uterine canal for stenosis. For that purpose he used electricity which is safer and more lasting in its results.

DR. GEORGE WOODRUFF JOHNSTON remarked that Dr. Smith was fortunate in having encountered such an interesting case of hematoma of the vagina, for, as was well known, this affection was by no means common. Taking the aggregate of the experience of four observers, quoted by Breisky in his work upon "Diseases of the Vagina" ("Handbuch der Frauenkrankheiten," Billroth), it would appear that hematoma of the vagina occurs but once in two thousand one hundred and twenty eight labors, and then most frequently in primiparæ.

Although hematoma of the vagina may follow direct injuries to the vaginal wall other than those inflicted during delivery, yet it is most frequently met with shortly after labor. The increased vascularity of the parts and loosening of tissue incident to pregnancy furnish the predisposing causes for this lesion, while the pressure of the fetal head and the traction and displacement occurring during labor serve as exciting causes in producing rupture of the veins or capillaries and effusion of blood.

But hematoma may be induced without any local injury whatever, as in the case cited by Murry (*Med. Times*, Phila., 1877, 539) of a female gymnast who fell a distance of ten yards, alighting on her feet. A hematoma appeared on the anterior vaginal wall, which was subsequently evacuated.

The treatment has already been outlined by Dr. Smith, but it may be mentioned that healing may be expedited, after emptying the sac, by antiseptic douches, while the walls of the cavity are kept approximated, at other times, by a light vaginal tampon.

In reference to another case spoken of by Dr. Smith, in which an abscess cavity was evacuated through the anterior vaginal wall, the author said that the circumstances under which he found the patient at his first visit were such that he was unable to make as thorough an examination as he could have wished, by passing his finger through the urethra, etc., etc. He would like to ask whether Dr. Smith considered such a procedure justifiable in the case under consideration. He did not deny that under certain exceptional circumstances digital dilatation of the urethra and exploration of the bladder might be warrantable, even necessary; but in the present case it would call for a great deal of temerity: the danger of injury to the urethra and subsequent incontinence after digital dilatation was so great that he would be willing to have recourse to this measure only under the most exceptional circumstances.

DR. J. FORD THOMPSON.—It is very rare to see an abscess in the anterior wall of the vagina. Emmet has only seen one case. He was not surprised that Dr. Smith should have been led astray and he was perfectly excusable, as the tumor had been punctured and

urine drawn off. There was no history of abscess and no general symptoms to guide the surgeon. Consequently he accepted the diagnosis without exploration.

He had a few words to say about the hematoma. He would operate on the blood-clots twenty-four hours after the oozing had ceased. He made it a practice to open hematomata by a small incision, wash out the cavity with a warm three-per-cent solution of carbolic acid, introduce a drainage tube, and dress the wound antiseptically. Every case of vaginal hematoma should be well laid open to clear away every bit of blood. When this is done, it generally heals by first intention. Since he had been following this practice, he had not seen suppuration in a single case of hematoma. This rule of general surgery would be equally advantageous if used in the vagina.

DR. KING.—The application of forceps to the after-coming head was an old method of delivery which had its enthusiastic advocates, notable among whom was the late Prof. Meigs, of Philadelphia; but of late years the method had grown into disfavor, for we had now learned the value of supra-pubic pressure, and this, with other means, was sufficient to accomplish delivery rapidly in the great majority of cases without the use of forceps.

There are chiefly two methods of delivering the head in ordinary breech cases, viz.: (1) forceps, and (2) combined traction, supra-pubic pressure, and manipulation. Dr. Smith had compared the use of forceps with "brute force" in using traction. This was not a legitimate comparison. Properly the use of the instrument should be compared only with a skilful and judicious use of traction, assisted by supra-pubic pressure and manipulation to secure a suitable degree of flexion. In many cases only very moderate traction is required, the difficult cases being those in which the feet had been brought down and the body drawn through the os uteri while it was still insufficiently dilated to admit the head, as would seem to have been the case in the two instances reported by Dr. Smith. It was impossible to criticise the treatment of Dr. Smith's cases with the meagre details that had been given. In one of them, where the woman was so little exhausted that she could walk out of her room, a little longer delay, or a few hours' sleep under the influence of a dose of morphia, might probably have been better than pulling down the feet.

The infant mortality in these breech cases had greatly decreased since the employment of supra-pubic pressure. Years ago it was said to be one in three, then one in ten, and finally one gentleman (Dr. T. G. Thomas) had a series, he thought, of twenty-six consecutive cases without losing a single child. He was in the habit of teaching the method of Thomas which consisted, if he understood it correctly, in doing nothing until the breech is born, when we "change our tactics" entirely, and do everything to expedite delivery, that is to say: give ergot, urge the woman to bear down, press the uterus from above, this last being done by an assistant while the obstetrician contributes traction and manipulation to secure flexion.

There are several other manual methods of delivering the after-coming head. In the Obstetrical Section of the last International Medical Congress, Dr. Bartlett recommended the method of Deventer, which he had tried successfully. It consists in bringing the hips of the woman to the edge of the bed, and then pulling the child's body perpendicularly down towards the floor without dis-

turbing the shoulders, which are allowed to remain and come with the head. If the occiput had rotated anteriorly, this would certainly be the proper, and only proper, direction in which to hold the body.

The use of forceps was, perhaps, of most value when the head was extended and arrested at the superior strait. In ordinary cases of head-last labors, with the head at the outlet, the delay in applying forceps would probably be fatal to the child, as had happened in one of his own cases, and could scarcely be so expeditious as the method of Thomas, previously stated.

He was rather surprised to hear from Dr. Smith that Dr. Barker had refuted the idea that a varicose condition of the veins was an etiological factor in the production of thrombus.

DR. BROMWELL asked Dr. Smith if the case was not primarily a cystocele that was punctured with the knife, causing infiltration which resulted in abscess.

DR. HAGNER had seen a case some time ago, where a tumor the size of a cocoanut was descending in advance of the child's head. He drew off two quarts of urine and the tumor disappeared. This was a prolapsed bladder.

DR. MACARDLE would like to know why the cystocele and abscess could not have been independent affections.

DR. PRENTISS had seen a tumor over the pubes that interfered with labor. He introduced a catheter, but could only draw off about an ounce of urine, later he passed it, but did not get any water; the delivery was effected with the tumor above the pubes; and afterwards he drew off a quart of urine. In this case he did not get the catheter far enough in, as the child's head compressed the middle of the bladder, thereby dividing it into two lobes.

The best method of delivering the after-coming head is the one that offers the child the best chance. He thought valuable time was lost in the application of the forceps.

DR. SMITH, in closing the discussion, said he could not see how Dr. Bromwell could introduce a wet laminaria tent. Reference had been made to dilating the cervical canal with electricity, but everybody had not a battery, and so the question was to provide a rule that would be general. If a vaginal hematoma is opened after the bleeding had ceased and the clots removed, there may be a renewal of the hemorrhage. The wound may be packed, but extravasation will take place, and it has been found to extend as far as the diaphragm. He thought it better to wait for pus, and then evacuate. He believed in the application of the forceps to the after-coming head. He thought the forceps should be used as a matter of choice, as being simpler, safer, speedier, and ought to be more successful than Deventer's method. The danger of delay in head-last cases is not from pressure on the cord, but from separation of the placenta. Dr. King recommends that an assistant make pressure over the head of the child after the body is born, but the accoucheur does not always have assistance at hand.



*Stated Meeting, February 3d, 1883.*

DR. S. C. BUSEY, *President, in the Chair.*

DR. GEORGE WYTHE COOK read the paper of the evening on:

SOME OBSERVATIONS ON LACTATION.<sup>1</sup>

DR. J. T. WINTER, in opening the discussion, said: Dr. Cook had introduced quite an important subject, and certainly deserved the thanks of the Society. He thought the recommendation of the essayist, that more attention should be paid to the mother, and less to the nurse, was an important one. Special attention should be given to the young mother, so that, she being properly instructed, might form good habits to last her all through her child-bearing period, and thus save her from many of its ills. He thought she should have explained to her, more than once if necessary, the importance of regularity, in point of time, in nursing her offspring, not oftener than every two or three hours during the day, and at longer intervals, five, six, or seven hours, at night. If she increases the child's nourishment during the day, it will require that much less at night, and thereby the mother will secure more rest. He thought it very important to warn mothers about the possible injuries of rough handling of the breasts, particularly in replacing them after nursing. The mother should harden the nipple before labor by manipulating it with her fingers. It is a good practice to give this part of the work to the husband, as it will give him something to do. Dr. Cook advises that the infant be placed at the breast by the third or fourth hour after delivery. His practice is to put the infant to the breast as soon after the woman is made comfortable as possible, preferably within the first half-hour. He usually places the child at the left breast. This might seem a small matter, but by so doing the heart is less apt to be oppressed. He thought the small supply of milk in many nursing women was due to their habit of shutting themselves up in their houses during the last months of pregnancy, as well as to the lack of exercise during lactation. If they would take more exercise in the open air, their appetites would increase and they would then take more food, which would improve the quantity and quality of the milk.

It was the custom of dairymen to give their cows bran to increase the supply of milk. In one instance under his observation, this was detrimental. A dairyman, just outside of the city, noticed that the supply of his herd was falling off, so he began to give them bran, and the doctor warned him that the milk would become poorer. The supply of water daily to each cow was seven gallons. In February, under good feeding, the milk was good, but in May, after the bran and water diet, the milk was very poor.

There were many galactogogues, but none of them seemed to be satisfactory. Jaborandi increased the flow in one woman for eight days, and in another for three. Pilocarpine may be given in doses as high as one-eighth of a grain. The castor-oil plant is also used for the same purpose.

Galactorrhea had not given him very much trouble. He usually controlled it with belladonna and camphor.

The habit of allowing the child to sleep on the arm, with the

<sup>1</sup> See Original Articles in this number.



nipple in its mouth, is a very bad one. A German woman consulted him for a rapid decline, which she supposed to be consumption. She had a bad cough, râles over both lungs, and expectoration of greenish mucus. She complained of being very tired in the morning. Her baby, seven months old, weighed forty pounds. It was accustomed to sleep on its mother's arm, and tug away at the breast all night long. He stopped the child's nursing, and in one month the cough had disappeared; she then went to the country, and was well in three months.

Two well-authenticated cases of lactation in advanced life are reported in the *Atlantic M. and S. Jour.*, July, 1872. One, a woman 60 years of age, adopted and nursed her youngest child's child. The other, a woman whose youngest child was 35 years old, put a child to her breast to keep it quiet, and in a few weeks the function of the flabby, atrophied gland, which had ceased for many years, was restored.

DR. KING.—The subject presented by Dr. Cook was one of great interest, and embraced a wide range of matter for discussion. If there is anything to criticise in the paper, I should think it would be the advice of suction to the nipple during the later months of pregnancy, or, as Dr. Winter recommends, digital manipulation of the nipple by the husband; both of these methods would be liable to bring on uterine contractions and premature labor. Flattening of the nipple was usually due to pressure of corsets or dresses; if this pressure were removed, the flat nipples might be left alone until after delivery, when they could easily be drawn out. With relation to the hours and frequency of nursing, it was his invariable rule that after the first week the child should not be allowed to nurse from 11 P.M. until 5 or 6 A.M. Six hours' continuous sleep was absolutely necessary to refresh the nervous energies of the mother, and so contributed to the maintenance of her digestion and assimilation of food, and by which alone good milk would be produced for the child. If the child cried for the first few nights, let it cry, or find out what caused the crying, which might be too much or too little bed-clothing, too much or too little heat, bad air, uncomfortable bandages, diapers, pins, and clothing, or a fold of sheet against a chafed skin. Most crying babies will stop crying when they are stripped naked.

With relation to the deficiency of milk production by many of our modern women, Dr. King thought it was due to insufficient water. Some women almost never drank water, declared they could not drink it, and they did not take a glass of it once in six months. Yet water was Nature's great vehicle for promoting the end- and exosmosis, by which the free fluidity of the excretions and secretions of the body was maintained, and upon which the assimilation of food and the general nutrition of the organism so largely depended. Of the various kinds of food which increased milk production, there was one group of aliments which had not been mentioned to-night, though its galactagogue properties have been known since the days of Hippocrates, viz., the various kinds of shell-fish, and especially crabs. In a delicate primipara, whose child is now two years old, and who he suspected would scarcely be able to nurse more than two or three months, the supply was kept up chiefly by crabs. In fact, the mother herself stated that "she almost lived on crabs all summer, for the sake of the baby." When she stopped the crabs, the milk stopped; when she ate crabs, the milk returned. These were her own expressions. Yet

she took tonics, lager beer, oysters, milk, and other foods, but for producing milk, crabs were the best.

He believed the child should be applied to the breast immediately after delivery, even before the delivery of the secundines. In fact, as he had striven to explain in his last Presidential Address before the Society, the reflex contractions of the uterus occasioned by the child sucking the nipple was one of Nature's means to secure uterine contraction and the expulsion of the placenta. The child should not be allowed any artificial food whatever before the "coming of the milk"; the little ill-formed serous milk and colostrum obtained during the first two days after labor would be ample to support the infant.

With relation to the not uncommon inability of primiparæ, in modern times, to supply milk for their infants (referred to by Dr. Busey), it was probably due to bad hygiene, insufficient exercise, lack of water, too much astringent tea locking up the secretions, and leading to constipation and mal-assimilation of food. The whole physiological career of a modern woman in the higher walks of life was intensely artificial and unnatural.

THE PRESIDENT said it had been his custom for a long time to draw out depressed nipples by inverting a neck of a small bottle over them twice daily. He formed a vacuum by immersing it in hot water, or by exhausting the air with a light.

DR. COOK thought the hours he had suggested would afford the mother quite as much rest as those suggested by Dr. King. The nipples could best be drawn out by suction, and he did not see that the inverted tumbler would be less harmful than little suction or suckling. No reliance could be placed on drugs as galactagogues. The proper application of the child to the breast would accomplish more than anything else.

---

## TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

---

*Regular Meeting, Friday, April 20th, 1888.*

*The President, HENRY T. BYFORD, M.D., in the Chair.*

THE PRESIDENT exhibited a

### UTERUS REMOVED PER VAGINAM FOR FIBROIDS.

He said: I have here a uterus about double the normal size that I removed through the vagina on account of fibroid tumors. They had produced incurable stenosis, and were accompanied by almost constant pain of increasing severity. The patient, Florence Jones, is 42 years old, and has had four children, the youngest 20 years old. She is obliged to wash for a living, has been getting worse for two years, and during the past year has had to stop work every two or three days on account of suffering referred to the pelvis.

She has been under treatment by prominent gynecologists, both for the stenosis and for the fibroid tumors, without avail.

As nothing short of a severe cutting operation would have relieved the stenosis, I considered that vaginal hysterectomy would be but little less dangerous, and would give permanent and complete relief instead of temporary and partial. It would remove the tumors with but little danger and thus forestall a possible abdominal hysterectomy or supra-vaginal amputation with the terrors so often connected with them. You will notice that the whole uterus is enlarged and hardened and that the cervix would form a bad stump in case of such amputation. Two of the tumors are near the serous surface, and one just under the mucous membrane. The stenosis extends half an inch above and a little below the internal os and is of cicatricial hardness. The tumors are each about the size of a hickory nut.

As would be expected, the patient has not had a bad symptom, and will in two or three weeks be able to resume her place at the wash tub.

The President said, in reply to questions, that the operation was performed five weeks ago, and the patient was ready to leave the hospital. The ovaries were not removed, as they were not diseased and were undergoing senile atrophy.

DR. JAMES H. ETHERIDGE reported the following

#### CASE OF CESAREAN SECTION.

He said: I have not had time to commit to paper a description of this case, but I can hurry over it very rapidly, giving the salient points.

On the 21st of February, I was summoned, by telephone, to see a patient; I was notified that I was wanted to perform Cesarean section; that there was a fluctuating tumor in the pelvis. I saw the patient about half-past ten in the morning, and upon examination I found the whole pelvis blocked up by a fluctuating tumor containing a hard substance. I could feel nothing else. The index finger could pass up between the symphysis pubis and the tumor, which seemed to be in the posterior part of the pelvis. I could pass one finger easily, but I could not get two in, and with the utmost pressure of my hand upwards I could not reach the cervix.

The patient was a young Irishwoman, 32 years of age, of a nervous temperament, and had borne three children. The first labor was normal. The second labor was terminated by instrumental delivery with some difficulty, and the third one, two and a half years ago, was accomplished with the greatest difficulty with forceps. There was an obstruction to delivery found at that time, but what it was was not determined. The next thing known of her was, she fell in labor, and the doctor upon examination detected what he telephoned to me. I could not determine what

the fluctuating tumor was, and the idea of puncturing it occurred to me upon my first examination, but fearing that I would open a pus cavity that would discharge its contents during the lying-in period, I was deterred from doing it. After a hurried consultation it was decided that the patient should be taken to the Presbyterian Hospital. She reached the hospital at a quarter-past one. The attending physician went with her in a carriage and administered chloroform *in transitu*. About half-past four she was etherized and the initial incision made from above the umbilicus, perhaps an inch and a half, down to the probable location of the reflexion of the peritoneum upon the uterus. The abdomen was very large, and in making the first incision the edge of the scalpel went through the abdominal wall and into the uterus itself. I supposed I was making a cutaneous incision, but the wall was so thin that the knife went through into the uterus. The steps of the operation after that were very simple. The incision was enlarged to about six inches, perhaps seven. The amniotic sac was not broken, and two or three sweeps of the knife carried it through the uterine wall and into the bag of waters, and there was a tremendous welling up, the water flowing out over the patient, the table, and everything else. Dr. Parkes was my vis-à-vis and he immediately pressed the uterus laterally with the view of forcing the child up through the opening, and it came up breach first. There was no attempt of the uterus to contract. The child was easily taken out in a second of time, and two snap forceps put upon the cord which was divided and the child given to the nurse. There was very copious hemorrhage, though not alarming; the walls on both sides seemed to be springs of blood. The contraction of the uterus was secured by the pressure over each side, no attempt being made to turn the uterus out of the cavity. The placenta was easily secured; the peeling off of the whole of it from the inside of the uterus was speedily, easily, and cleanly accomplished. Uterine contractions failed to follow immediately. A hypodermic injection of ergot was given and snap forceps put on bleeding vessels until the hemorrhage was controlled. The uterus was manipulated and pinched and every effort made to invite nature to set up contraction, which, after a space of seven or eight minutes, came on, feebly, not vigorously.

After the uterus was thoroughly emptied, I passed my hand down into the cervix to see if it was patulous, and I found all four of my fingers could go through easily up to the second joint, showing that there would be an outlet for the lochial flow. The appearance of blood at the vulva indicated that drainage from the uterus would be all that could be desired.

The closure of the uterus was accomplished by three rows of sutures; the first one, which brought together the mucous membrane, was made with a carbolized silk ligature. A larger ligature was used for the muscularis. A fine silk suture was used for

the peritoneal covering of the uterus. In the mean time the uterus was contracting very steadily indeed, and the hemorrhage was well under control, so that by the time the muscular wall was brought together it was a dry wound. The abdominal wall was closed in the ordinary way with interrupted sutures and the patient was put to bed with stimulants and hot applications, and she reacted very well indeed. She ran along for twenty-four hours very well without any particular rise of temperature, but in the second twenty-four hours there was a gradual coming up of the temperature and peritonitis set in. I wished to take advantage of cathartics and get her bowels open, but every effort that was made to physic her, in the second twenty-four hours, was entirely futile. Injections by the rectum were attempted, but the pressure upon the rectum prevented the introduction beyond the sphincter ani of a rectal tube; in the mean time the temperature was going up and the patient getting weaker. Then it was decided to open the fluctuating tumor in the pelvis and see what it was. The patient was chloroformed and placed in the extreme lithotomy position. The posterior vaginal wall was found to be extremely blue. The Cesarean section was performed about four o'clock in the afternoon, and this operation was done near the close of the third twenty-four hours afterwards, viz., about two o'clock. An incision was made in this bulging mass and the pus welled out in great quantities, amounting to about half a gallon. Upon introducing the index finger into the abscess cavity, a dermoid cyst was detected, the hair being easily detectable. The patient was put to bed after a thorough evacuation of the pus, but she never rallied from the shock of the operation and died in twelve hours.

It occurred to me, on first examining her, that this could not be an accumulation of ascitic fluid and that it must be pus. From the history of the case and the deduction that was speedily made, the decision was reached that abdominal section should be made and the child removed in that way, because in the examination one could feel up in the vagina, with the finger, a hard mass of something below the promontory of the sacrum that appeared to me would render it impossible to introduce forceps and to drag the child through; and if it was filled with pus, I was certain the woman would die of infection.

DR. W. W. JAGGARD read the following paper, entitled

A CASE OF CONSERVATIVE CESAREAN SECTION UNDER THE RELATIVE INDICATION, WITH TERMINATION IN RECOVERY.

I desire to place on record the following case of conservative Cesarean section performed under the relative indication, with termination in recovery. In passing, I beg to call attention to certain points of practical interest in connection with the mea-



surement of the pelvis, the indication for, and the technique of the operation.

Dr. Patrick Dougherty, of Chicago, a short time since invited me to see in consultation a case of alleged contracted pelvis. We examined the patient in the third week of February last, and elicited the following history.

*Case.*—Mrs. E. S., 36 years old, born in Hillesheim, in the region of the Eifel Gebirge, Rhenish Prussia, married in the United States shortly after immigration. She had been a sickly child, unable to walk until her seventh year, on account of rachitis. During infancy, she suffered from tuberculosis of the cervical glands, two depressed cicatrices being visible on the left side of the neck at the time of examination. Since her seventh year, she has enjoyed robust health.

Her mother gave birth to four children, three of whom were females. All of these labors were normal. Of the patient's two sisters, one has had normal confinements, while the other has been invariably delivered by the aid of instruments.

First pregnancy: patient's first child was delivered May 13th, 1882. Shoulder presentation, right scapula anterior position. Difficult delivery by version, decapitation, and extraction. Puerperium normal.

Second pregnancy, delivery June 20th, 1883. Same presentation and position as in first pregnancy. Prolapsus of funis. Delivery by version, extraction, and forceps to the after-coming head. Septicemia, puerperium six weeks.

Third pregnancy, induction of premature labor at the end of the seventh lunar month. Same presentation and position as before. Delivery by version and extraction. Child survived the difficult operation a few hours. Puerperium normal.

Fifth pregnancy, beginning of last menstruation June 1st, 1887. *Status præsens*: The patient, of strong frame and well-developed muscles, is four feet seven inches in height, and one hundred and thirty-five pounds in weight. Pregnant; near term; distance from ensiform cartilage to pubis forty-five centimetres ( $17\frac{1}{2}$  inches); from ensiform cartilage to umbilicus, twenty-two centimetres ( $8\frac{3}{4}$  inches); circumference around umbilicus, eighty-seven centimetres (34 inches). Shoulder presentation, right scapula anterior position.

#### *Pelvic Measurements.*

Distance between anterior-superior spinous processes.....	27 cm. ( $10\frac{1}{2}$ in.)
Distance between iliac crests.....	27 cm. ( $10\frac{1}{2}$ in.)
External conjugate diameter (Baudelocque).....	14 cm. ( $5\frac{1}{2}$ in.)
Distance from sacro-coccygeal joint to sub-pubic ligament (A. G. E. Breisky).....	9 cm. ( $3\frac{1}{2}$ in.)
Distance between the great trochanters.....	30 cm. (11.7 in.)
Pelvic circumference (Kiwisch).....	85 cm. ( $33\frac{1}{4}$ in.)



Diagonal conjugate diameter ..... 7.5 cm. (2.9 in.)  
 True conjugate diameter (estimated) ..... 5.5 cm. (2.14 in.)

*Diagnosis.*—Simple, flat rachitic pelvis, with so-called absolute contraction of the true conjugate diameter. Apart from the pelvis, the osseous system showed no marked signs of rachitis. There was no abnormal spinal curvature, antero-posterior or lateral, and the long bones were perfectly straight.

*Indication for Operation.*—Notwithstanding the fact that the pelvis was a typical example of the so-called absolutely contracted simple, flat, rachitic class, the history of former deliveries demonstrated plainly that the obstacle to the escape of the child through the natural passages was only relative, and not at all insurmountable. Nor is it necessary, in order to explain the woman's survival of former labors, to invoke extraordinary skill upon the side of the medical attendants—in all twelve in number—nor unusual physical endurance upon the part of the patient, although both conditions were doubtless supplied. Both parents were undersized, with relatively small heads, and the children were of a size less than is common. Moreover, the after-coming head was invariably made to present, and the accommodation of the passenger to the passages was thus greatly facilitated. The case was clearly one in which the woman could be delivered with safety, in all probability, by version, extraction, and craniotomy. On the other hand, the child was living, and Cesarean section offered the possibility of saving both mother and child, although, of course, with enormously increased maternal risk. The question of the induction of premature labor, so late in pregnancy, was not considered for obvious reasons. In a word, the relative indication for Cesarean section was presented.

The most important condition upon which this indication depends at the present time is the consent of the woman, obtained without direct or indirect coercion. Accordingly, a plain, unvarnished statement of all the facts in the case was made to the patient. She was clearly and distinctly informed that, by the destruction of the child and its removal as in former pregnancies, her life would be almost certainly saved, and that the attempt to save both lives by Cesarean section would be attended by enormously increased danger to herself. After a week's deliberation, she elected the Cesarean operation. In reaching this conclusion, she was assisted by the Roman Catholic priest of the parish. This gentleman remarked that the pregnant woman was the aggressor; that she had made the contract of maternity; the child was passive, and had made no contract. In strict equity, entirely apart from ecclesiastical considerations, the child's claims to life should be considered at least equally with those of the mother.

*Operation.*—The patient at once entered Mercy Hospital. The urine was examined, and found to be normal. The only preparatory treatment consisted in a daily bath, in tepid water, with the

liberal use of soap, that the woman's mode of life before admission rendered necessary.

In the selection of the time for operation, I had determined to choose the latest possible moment before labor actually began. From the usual data—date of last menstruation, size and position of the uterus, abdominal measurements, length of the child measured by calipers (Ahlfeld), estimate of the size and weight of the child by palpation (Carl Braun)—it was possible in this case to make only a probable diagnosis of the time of gestation. I concluded that the woman was in the last fortnight of pregnancy.

Early Tuesday morning, March 6th, the patient informed me that she would certainly fall in labor within the next twenty-four hours. She based her prediction upon dull pain referable to the lumbar and sacral regions, and beginning painful uterine contractions. She had been enabled to foretell her other confinements by similar sensations, and I was inclined to attach considerable importance in this case to subjective signs. The only objective symptom indicative of impending labor was a slight increase in the force and frequency of the intermittent uterine contractions. So the hour for the operation was fixed upon at one in the afternoon.

All precautions were taken with respect to the most thorough cleanliness and disinfection of the operator, assistants, patient, instruments, and environment.

Dr. W. E. Casselberry administered the anesthetic (ether); Dr. E. C. Dudley, Dr. Bayard Holmes, Dr. G. W. Whitfield, Dr. B. L. Riese, Dr. M. Scheuer assisted me in the operation; Dr. Patrick Dougherty and Dr. Charles Caldwell assumed charge of the babe. I take this opportunity to make my grateful acknowledgments to these gentlemen for their efficient services.

The woman was in excellent condition; cheerful; pulse and temperature normal.

The steps in the operation were: After evacuation of the bladder, incision through the linea alba, from the navel to a short distance above the pubes, as low down as was safe, on account of the bladder. The diastasis of the recti muscles was well marked, and the peritoneum was incised without dividing much muscular tissue. No omentum nor intestines presented between the uterus and anterior abdominal wall.

The median line of the uterus coincided with the incision, and the usual manipulation to correct lateral version and axial rotation was unnecessary. Before making the uterine incision, Dr. Holmes placed one hand on either side of the cut, and rendered the abdominal parietes tense enough to prevent the access of fluid to the peritoneal cavity. I incised the anterior uterine wall in the median line at a point a short distance above the os internum with a scalpel, and rapidly enlarged the cut in the direction of the fundus, to the extent of thirteen centimetres (5 inches) with a

blunt-pointed bistoury. The thickness of the uterine wall was about one centimetre (one-third of an inch).

The placenta was implanted over the line of incision, and the first gush of blood was frightful. The after-birth was quickly separated by the hand, the amnion ruptured, the child caught by the feet, turned, and delivered without laceration of the uterine wound. The child uttered a lusty cry upon its liberation from the *cavum uteri*. I had requested an assistant to insert his index fingers into the upper and lower angles of the uterine incision, and bring them up close to the abdominal cut, as an additional precaution against the escape of fluid into the peritoneal cavity. In the hurry of the operation, this request was forgotten. After, or, rather, during the evacuation of the uterus, Dr. Holmes pressed this organ through the abdominal incision, by his hands applied on either side, while Dr. Riese brought the edges of the abdominal cut together behind the uterus, and effectually prevented all intestinal protrusion. The lower uterine segment, after this evensation, was firmly compressed by Dr. Holmes with the thumbs and index fingers of both hands, while the corpus uteri was enveloped in hot sterilized gauze compresses. Squibb's aqueous extract of ergot was exhibited hypodermically after the evacuation of the *cavum uteri*.

Hemorrhage was trifling after the contraction and retraction of the uterine musculature, following the escape of the fetus and envelopes, and was now fully controlled by digital compression. The elastic ligature was not used in the operation.

Twenty-one deep uterine sutures were inserted, including all the tissues down to the mucosa. For the introduction of these sutures, I used the long, slender laparotomy needle of Thomas Keith. This needle passes with remarkable ease through the thick uterine wall, making a very small puncture, that is completely filled up with the suture material—in this case silk. After passing a finger through the canal of the cervix from above downward, the uterine cavity was irrigated with a five-per-cent solution of carbolic acid, a bacillum containing ninety grains of iodoform placed within, and the wound closed. Union of the peritoneum over the line of incision was effected by a continuous silk suture. When the two rows of sutures had been drawn taut, the uterine wound was accurately closed, and perfectly dry. The uterus, in a state of normal retraction, was returned to the cavity of the abdomen.

The toilet of the peritoneum was brief, as no fluid had escaped into the abdominal cavity, and the intestines had not at any time protruded. The abdominal incision was closed with interrupted silk sutures.

The duration of the operation was about one and one-quarter hours. From the extraordinarily simple *technique*, it would seem that the operation had been needlessly prolonged. But the ute-

rine sutures were inserted deliberately and with care; then, too, time was occupied in securing uterine retraction by the application of hot compresses.

The total amount of blood lost was not great—scarcely more than the average loss in normal labors. The chief element of danger lay in the suddenness of the loss, but no indication arose for the employment of transfusion, the apparatus for which was in readiness.

The shock from the operation was profound, but brief. The patient fully reacted within three hours. Her convalescence was uninterrupted. The pulse at seven, the day of the operation, was rapid, 120 beats to the minute, tense and small. It became gradually less frequent, less tense, until at the expiration of the first week it was normal. The temperature remained nearly normal, showing slight variations in the second week. These variations were attributed to several severe burns, suffered as the result of the injudicious application of hot bottles immediately after the operation. On the third day, the audible escape of flatus was noted, and about the same time the patient began to void urine spontaneously.

Tympanites was notable by its absence throughout the recovery. On the fifth day, the bowels were painlessly evacuated after the exhibition of citrate of magnesia, for which a preference was expressed.

The patient did not vomit at all, not even when she was recovering from anesthesia.

The lochial discharge was slight, odorless, and ceased at the expiration of two weeks. Lactation was not established. After all former confinements, the milk secretion was abundant.

Examination to-day, April 20th, reveals the uterus nearly normal in size in mobile anteflexion. The parametrium is free from any sign of infiltration, and no trace of the sutures in the anterior wall of the uterus can be felt upon careful bimanual exploration. The vaginal finger easily outlines the anterior aspect of the uterus. The uterus is situated relatively high up in the pelvic cavity, but can be readily made to descend below the plane of the inlet by gentle pressure above the pubes. I suspect the presence of adhesions—they must be very slight, however—between the fundus and the anterior abdominal wall.

The child was a small, but perfectly formed, and apparently mature male; weight, 3,000 grammes; length, 49 centimetres. The infant thrived on artificial feeding until the sixteenth day, when, after exposure to cold, it died suddenly in a convulsion. The autopsy disclosed intense pulmonary congestion. Although the child was apparently well nourished, it is not improbable that inanition was a predisposing factor. The death of the child was a matter of regret, apart from other considerations, on account of the possible unfavorable influence on the mother. However,

she bore the loss calmly, feeling happy that she had given birth to a living child, capable of baptism.

The diameters of the fetal head were:

Occipito-frontal.....11 cm. (4.29 inches).

Occipito-mental.....12 cm. (4.68 inches).

Bi-parietal..... 8 $\frac{3}{4}$  cm. (3.4 inches).

*Pelvimetry.*—Dr. R. P. Harris, whose eminent services as the statistician of Cesarean section are universally recognized, writes in a recent communication to the *Medical News*, March 31st, 1888, "What is wanted now is a better acquaintance with pelvimetry, and the steps of the improved operation, as it is performed in Leipzig, Dresden, and New York." No one doubts the truth of this proposition. Certain it is that the notion of pelvimetry generally entertained is obscure and confused in the extreme. Dr. E. C. Dudley informs me that a few weeks ago he encountered a case in which a wife, desirous of becoming a mother, confessed to the practice of the prevention of conception through a period of ten years, under the advice of two distinguished practitioners, upon the ground of alleged contracted pelvis. Careful measurements revealed the fact that the pelvis was unusually large. The woman has since become pregnant. But it is needless to multiply examples of such irresponsible opinion, when we have fatal ignorance flippantly displayed in the literature of the subject. A very pernicious book by a very excellent man, and published only two years ago, contains the following sentence: "External pelvimetry, while of undoubted service in large averages, is of no use in an individual case. The most common application of it is to measure the conjugate diameter by means of Baudelocque's calipers or the like instrument. One point of the calipers is placed on the back over the sacrum, the other over the symphysis pubis, and the distance between is noted. We then guess how thick the sacrum and dorsal tissue are, and how thick the symphysis must be, and, deducting these measurements, we can guess how long the conjugate diameter is, which might have been done without so much trouble in measuring." Many of the cases of Cesarean section recorded in American annals are rendered well-nigh valueless for the purposes of comparative study by the omission of accurate pelvic measurements. Now, it must be admitted that the exact determination of the size and form of the pelvis constitutes one of the most difficult problems in obstetrics. A survey of the enormous mass of literature upon this subject, accumulating since the discovery of the contracted pelvis by Julius Cæsar Arantius three hundred years ago, fully confirms this opinion. As an excellent critical, historical review of the subject, I beg to recommend to the Fellows of this Society the monograph<sup>1</sup> of Dr. Felix Skutsch. While all

<sup>1</sup>"Die Beckenmessung an der lebenden Frau." Jena, Gustav Fischer, 1887.



methods of pelvimetry fail to yield absolutely accurate measurements, and our notion of the pelvic anomaly in the concrete case must be inexact to a degree corresponding, still the diameters and dimensions just mentioned are amply sufficient to establish the probable diagnosis of the shape and relative size of the pelvis in the individual case of the more usual types of deformity, and to afford data for comparative study, and ground for action.

I append the corresponding normal diameters and dimensions, as given by Carl Braun and Schroeder:

Distance between anterior superior spinous processes.....	26 cm.
Distance between iliac crests.....	29 cm.
External conjugate diameter (Baudelocque).....	20½ cm.
Distance from sacro-coccygeal joint to subpubic joint (A. G. E. Breisky).....	12.3 cm.
Distance between great trochanters.....	31½ cm.
Pelvic circumference (Kiwisch).....	90 cm.
Diagonal conjugate diameter.....	13 cm.
True conjugate diameter.....	11 cm.

II. *The Relative Indication for Cesarean Section.*—Of course, as an operator, I was more pleased to perform Cesarean section than to do craniotomy. But the humor of the medical attendant sustains no relation to the ethics of the case. I cannot forbear to reiterate here certain convictions that must always come up for consideration in similar cases. These propositions I beg to submit, if the expression be not too harsh, not so much as matters of opinion as matters of fact.

1. The necessary maternal mortality of craniotomy, performed under the conditions demanded in Cesarean section as respects freedom from exhaustion and infection of the patient, with the best instrument and adequate skill, in cases of the simple, flat rachitic pelvis with a *conjugata vera* of six to eight centimetres, is zero. The simple, flat rachitic pelvis is used as a type in this thesis on account of its relatively frequent occurrence. In the generally contracted, and in the generally contracted and flat pelvis, a *conjugata vera* greater than six centimetres must be postulated unless, as in the case I have just reported, the fetal head is uncommonly small. It has been reserved for Leopold to demonstrate the truth of this proposition. While in 215<sup>1</sup> cases of craniotomy collected from the records of the Berlin Polyclinic, the Clinic at Halle, and the Leipsic Polyclinic, the entire maternal death-rate was 5.6%, the total maternal mortality in Leopold's Clinic at Dresden during the interval, 1883-1887, after craniotomy, including 71 cases, was 2.8%. In these two fatal cases, the cause of death was eclampsia, so that the mortality, due to the operation itself, has been reduced to zero.

<sup>1</sup> Wyder, Archiv f. Gyn., Bd. xxxii., Hft. 1, p. 60.

<sup>2</sup> Leopold, "Der Kaiserschnitt," etc., Stuttgart, 1888.



The operation, performed under its own peculiar conditions, with the best instruments, is not extraordinarily difficult. It does not imply a higher degree of operative skill than it is fair to presume every qualified practitioner possesses. I have observed in all about thirty cases of craniotomy, and have never noted especial difficulty in the technique of the operation, nor unfavorable results to the mother, when the procedure was really indicated, and when the necessary conditions were present.

On the other hand, the mortality of conservative Cesarean section, even when the necessary conditions have been supplied, is still considerable. Of Leopold's 23 cases of the improved Cesarean section, 2 or 8.4% died. The following extract from a letter recently received from Dr. Robert P. Harris is of interest in connection with American statistics:

"Your case makes 16 Sanger-Cesarean sections for the United States, with 7 recoveries; and 165 for the whole Cesarean list, with 63 women saved.

"I have 12 cases on record for the last fifteen months, with 6 women and 9 children saved; yours makes the thirteenth. There were 8 operations in 1887, all Sanger's but one, with 4 women and 5 children saved. I have 3 cases in already for this year: one each for January, February, and March; 1 woman and 3 children saved."

The Cesarean section is, and must always remain, the most difficult, dangerous, and formidable procedure in operative obstetrics. The shock incident to the operation, entirely apart from sepsis and the loss of blood, is an element of danger that can never be completely eliminated. It is, perhaps, needless to remark that the successful performance of this operation does imply such a high degree of operative skill, and such an experience in this particular operation, as it is fair to presume the average practitioner does not possess.

As remarked by Leopold,<sup>1</sup> "The time has not yet arrived when craniotomy upon the living child can be unconditionally substituted by Cesarean section. In a good many cases perforation may be avoided, and in a still larger proportion it cannot be dispensed with."

And Praeger<sup>2</sup> draws this important conclusion. "In cases presenting the relative indication, and which in a hospital might be subjected to Cesarean section, the general practitioner, as a rule, ought only to consider craniotomy as the operation involving least risk to the mother."

2. The consent of the patient, obtained without direct or indirect coercion, is an essential condition to the relative indication. The time will probably come when under certain circumstances

<sup>1</sup> L. c., p. 164.

<sup>2</sup> L. c., p. 116.

—*ex. gr.* in hospital practice—the woman shall not be permitted to elect as freely as she must be allowed to do at present.

3. The life of the adult female, who has already contracted relations with society, is of incomparably greater value, as judged by human standards, than the problematical existence of an unborn babe. Moreover, the expectancy of life in such children is decidedly less than in children of normal birth. If the operation is performed before the objective changes of labor are evident, as in the case under discussion, there is the risk of the premature interruption of pregnancy, of obviously serious prognostic moment with reference to the child. The necessary early ligature of the cord deprives the infant of an average amount of blood of ninety-two grammes (Budin, Ribemont). The mother is seldom able, even if she were to be permitted, to suckle her child. Finally, the offspring of women, affected with rachitis or osteomalacia, are frequently feeble, sickly, and unable to resist the unfavorable influence of the environment, entirely apart from the effect of hereditary disease. It is not my intention to use the death of the child in this particular case as an illustration of the truth of the statement just made, since in my judgment that event occurred chiefly as the result of most gross carelessness, *i. e.*, exposure of the child before an open window on one of those bitterly cold days in the latter part of March. Of the twenty-three children delivered alive by Leopold, one died a few hours after the operation (neglected shoulder presentation, laceration of the liver), eight died principally from cholera infantum within from three weeks to one year of the operation, eleven were living at the expiration of one year. The fate of three is unknown.

Now, while the present status of the Cesarean operation with us scarcely justifies the words of Mauriceau, aptly quoted by Professor Lusk: "If it be true that any women have escaped, it was the work of a miracle, or the express wish of God, who, if he wills it, is able to raise the dead, as he did Lazarus;" still it does suggest the often quoted remark of Cazeaux, "That which is certain respecting the Cesarean operation is that more than the half of the women are immediately sacrificed, and that which has been well proven by the experience of the centuries is that, supposing all the infants alive at the moment of their birth, we will see not more than one-half attain the age at which their mothers succumbed."

I do not wish to be regarded as an obstructionist, but desire merely to utter a voice of warning. In this "Cesarean Revolution in Progress in the United States," let us go slowly. In the words of Professor Cameron, of Montreal, that I quote from a letter, and without his permission, "Too much has been claimed for the section, a reaction is bound to set in ere long." Draw the

<sup>1</sup> "The Prognosis of Cesarean Operation." The Medical News, October 8th, 1887, p. 412.

lines of indication and condition more exactly, and surrender the operation to a special class of practitioners.

III. *The Operation.*—The items of special interest in connection with this particular case of Cesarean section, are:

1. In the selection of the time of operation, I acted upon Schroeder's advice, and chose the latest possible moment before labor actually began. The advantages of an aseptic genital canal, daylight, adequate assistance, and the like outweigh the danger of atony after evacuation of the uterus. The researches of J. Braxton Hicks<sup>1</sup> on "The intermittent contractions of the uterus during the whole of pregnancy" are perfectly familiar to the English-reading profession. In a recent note, this observer writes, "These intermittent contractions, always going on, are ready to be intensified by any exciting cause, and especially so at the periods of the suspended menstruation." . . . "The rapidity with which labor can be induced at almost any time of pregnancy is explained now quite readily. Formerly the fact was not explained; indeed, the time for termination of delivery can be precisely stated—the whole process done to order, as Dr. Robert Barnes and myself have pointed out. Dilate the os by elastic bags, turn the fetus by my method, and in two hours generally the fetus is expelled. The whole need not occupy more than from six to eight hours." I was present some years ago at a Cesarean section performed shortly before term by Professor Spaeth, assisted by Dr. Lumbe and Dr. Ehrendorfer. In this case, as in my own, there was no difficulty in securing retraction after the evacuation of the viscus. Of course, one runs the risk of moment to the child—of interrupting pregnancy some time before term, since only an approximate estimate of the time of gestation can be made from the data we can at present command.

2. The uterus was incised *in situ* and the liquor amnii evacuated through the abdominal cut. Leopold recommends the eventration of the uterus before incision, and it is the common custom to rupture the amnion *per vaginam*. Säger in his paper, read at the International Medical Congress, recommends the course pursued in this case. I had confidence in the ability of Dr. Holmes' hands to keep blood and liquor amnii out of the peritoneal cavity, and a short cut is of obvious advantage in retaining the intestinal mass within the abdominal cavity, not to mention other benefits.

3. Hemorrhage was controlled by the normal tonus of the uterus and digital compression of the lower uterine segment. I did not apply the elastic ligature around the lower uterine segment before or after the uterine incision on account of the danger of paralysis of the structures at and below the point of compression, a danger to which Säger,<sup>2</sup> Doléris, and others have called attention. The amount of blood lost during the incision need not be much greater

<sup>1</sup> The Lancet, p. 554, March 17th, 1888.

<sup>2</sup> Transactions of Ninth International Medical Congress.

without than with the elastic ligature. It need not be much more than the amount of blood in the uterus at the time the incision is begun, provided subsequent procedures are executed quickly. The quantity of blood in the uterus at the time the incision is begun is necessarily lost.

4. The long laparotomy needle of Thomas Keith rendered the closure of the uterine wound easy and comparatively rapid. The puncture is very small, and is completely filled out by the suture material.

5. The suture material used in this case was silk. The influence of the suture material on the functions of the uterus, menstruation and pregnancy, is a question of grave practical moment. Leopold has rejected silver wire entirely and prefers chrome catgut to silk. In nine consecutive cases he has used this material with entire satisfaction.

The superficial uterine suture was intended to effect linear union of the incised peritoneum, and no attempt was made to fold that membrane into the divided muscularis in order to oppose peritoneal surfaces of relatively great areas. This constitutes a departure from Säger's method. Schröder<sup>1</sup> pointed out the essential weakness in the sero-serous suture, when he called attention to the fact that incised wounds with their edges accurately approximated are surer to heal than opposed peritoneal surfaces. In order that opposed peritoneal surfaces should unite, some new irritation is necessary to produce adhesive inflammation. This observation has since been confirmed by the investigation of Zweifel, Graser,<sup>2</sup> and J. Veit.<sup>3</sup>

DR. C. T. PARKES.—As I was present at Dr. Etheridge's operation, I should like to say a few words in regard to some of the impressions made upon me. First, in regard to its severity: so far as my experience goes with disease or injury affecting the abdominal cavity, I am sure I have been through cases quite often that would give me a great deal more anxiety, and be found more troublesome to manage than the doing of this operation. It struck me as being a very simple operation, at least to any one who is accustomed to having anything at all to do with the abdominal cavity. In the first place, the uterus is so large and it fills up so much of the cavity of the abdomen, that all the other viscera are out of the way, as was beautifully illustrated by Dr. Jaggard: there was nothing to be seen when the abdominal cavity was opened except the uterus, and it was very easy for the surgeon to open it. It was one of the easiest things imaginable to get the contents of the uterus out. So far as the flow of blood was concerned, I did not think there was any great amount of blood lost, considering the tissues divided and the size of the vessels cut. The gush is at first rather astonishing, but after a little time there is a rapid cessation of the bleeding. The bleeding in this case was

<sup>1</sup> Zeitschr. d. Geb. und Gyn., Bd. 11, p. 395.

<sup>2</sup> Habilitationsschrift, Erlangen, 1886.

<sup>3</sup> Deutsche Med. Wochenschr., 1888, No. 17.

very readily controlled by compression, and it did not strike me as being hurtful to the patient. I am quite sure she did not show any of the signs that are so often present when a large amount of blood is lost in other parts of the body. I am sorry that a complete post-mortem was not made after the death of the patient because I was very desirous of seeing the result of the manner of suturing that was adopted, because it struck me as being perfectly safe. After the suturing was done, the wound was perfectly dry in every way, and after this part of the work was over and the operation done, with the exception of closing the abdominal wound, no sponging was required. There seemed to be no trouble in keeping everything out of the abdominal cavity, either amniotic fluid or blood.

Another point struck me in this case, not directly in connection with Cesarean section, but as interesting in obstetrics. I have always been taught and always supposed that, during the development of the uterus in the latter stages of pregnancy, all parts were dilated, that the cervix was opened out and became part of the body, that it was thinned out so that the cervix and body became continuous, but to my astonishment, when the body of this uterus was exposed, the cervix was perfect in shape and retained the same relation to the body as in the normal state. There did not seem to be any losing of the cervix in the body by dilatation.

THE PRESIDENT.—I congratulate Dr. Etheridge upon his courage in performing Cesarean section under such adverse circumstances. Most operators would have preferred to attack the pus tumor from below, delivered the child through the vagina, and have trusted to antiseptic treatment to prevent or modify subsequent septicemia.

I wish also to congratulate Dr. Jaggard upon the completeness of his paper in placing this subject before us in its most modern aspect.

DR. J. C. HOAG.—I do not feel like saying anything after so many better men have maintained silence, but I think the papers deserve to be favorably discussed, and at least some questions might be asked on the subject. I thought, while the papers were being read, of a medical meeting I attended some time ago in London, where the relative merits of Cesarean section and craniotomy were discussed. The meeting was attended by some of the most eminent men of England, and there seemed to be a very general consensus of opinion that craniotomy should be entirely abandoned. It seemed that the discussion first arose at a meeting of the British Medical Association, and it was afterwards kept up for some time in the society to which I refer. I was a little astonished to find that, at the same time the opinion was prevalent that craniotomy (embryotomy was perhaps the term used) should be abandoned, there was not a gentleman present who knew what Saenger's operation was, and it was suggested then that some one look up the subject and report at the next meeting.

With regard to the technique of the operation, I remember to have read that on one occasion, when there was quite profuse hemorrhage and where retraction and contraction did not take place after the operation, the operator was bold enough to keep the uterus open for an hour and a half, keeping it packed with ice, and that the patient made a good recovery. I have also noticed somewhere that some operator has suggested the advisability of



putting in a few sutures in the abdominal wound previous to incising the uterus, so that after removing the child the walls might be drawn together somewhat and thus aid in the prevention of accumulations in the peritoneum. I would like to hear what the gentlemen think of these suggestions.

DR. F. C. SHAEFFER.—I think the essayist deserves great praise for his courage, and is to be congratulated upon the brilliant results. Considering the varied circumstances under which these operations were done, it seems to me the results were extraordinarily good. It has afforded me very great pleasure to hear these papers to-night.

DR. CHARLES WARRINGTON EARLE.—I would like to ask Dr. Etheridge one question: Were you able, in the time at your command, to make any effort at trying to find, through the incision in the abdominal wall, the nature of that obstruction below? You knew there was a fluctuating tumor there, did you examine it at the time of the operation?

DR. ETHERIDGE.—I did not. I was so anxious to close up everything and get it out of the way that I did nothing of the sort. I was very greatly disappointed in our inability to secure a post-mortem examination. The next morning when I reached the hospital, about half-past nine, the body had been taken away, so that that part of it will always have to remain obscure.

In regard to doing the other operation of opening the abscess and letting the discharge come away from it, I can say this: I have my doubts as to the possibility of saving the woman under the circumstances, from the fact that the pelvic cavity was not sufficiently enlarged by the evacuation of the tumor to admit of pulling the child through. This still constitutes, in my mind, an imperative objection to opening the tumor before the attempt at Cesarean section.

I cannot resume my seat without congratulating Dr. Jaggard upon his very elaborate and learned report of his case. I think he is certainly to be thanked by this Society on the production of his paper.

DR. W. W. JAGGARD, in closing the discussion, said he was grateful to the Fellows for the kind attention given to his paper.

After answering Dr. Hoag's question, he said that he thought Dr. Parkes' notion of Cesarean section, as expressed in his own words, was erroneous and calculated to mislead. The *technique* of the operation is apparently simple, but the dangers of shock, hemorrhage, and sepsis are constantly present, and every minutest detail demanded the most critical attention. The terrible mortality of the operation with us in the United States abundantly demonstrates its formidable character.

DR. CHARLES T. PARKES read the following

#### REPORT OF FIRST FIFTY OPERATIONS FOR OVARIAN TUMORS.

In presenting for your consideration a record of my first fifty cases of operation done in succession for ovarian tumor, it will be my object to call attention to those only which seem to me to possess somewhat special characteristics, or have shown something unusual in their course. Not but what I believe that every case is of special interest to the operator in so far as it furnishes him individually with useful experience and something new to



cogitate over, and from which to elucidate improvements in future cases coming under his care. To mention all these circumstances would become monotonous.

In the final summing up I shall attempt to group together, in a somewhat practical way, the deductions which come to my mind as the outgrowth of this amount of work.

My work in this field commenced rather early in my professional career, and whatever success may have attended my efforts could not have been, and was not, the outcome of any special preparation. The first half-dozen operations were done before ever having witnessed the operation performed by any other operator.

In 1878 it was my privilege to see considerable of this kind of work executed by the attendants at the Samaritan Hospital, London, and other surgeons.

Since then, I have felt more at my ease in this labor, and could speak more emphatically as well as encouragingly to my patients. Before then the work had associated with it a large expenditure of force, both mental and physical, on the part of the operator, and I am free to admit that, as a rule, the patients did not get along as easily and smoothly as they have since. Still it has been my good luck not to have a very large percentage of mortality. The table shows that the second and the thirty-seventh cases died as the result of circumstances attending the operation. Two out of fifty—it is not a bad showing. If it is my good fortune to equal this percentage in the second fifty, no complaints will be heard from me.

*Case I.*—This lady is still living in this city. She has never borne any children. The operation was done during the third year after my graduation and is chosen for remark, first, because the case furnishes a good illustration of the impudence and assumption sometimes displayed by young and ambitious practitioners, and which causes them at times to run where angels would fear to step even slowly. I believe I invited to be present at the operation Professors Freer, Gunn and Powell, Jackson, Bogue and some others, and they were all on hand. It has always been a mystery to me how that operation was carried on, or finished, perhaps some who were present might be able to tell, it is impossible for me to do so. However, it is clear in my mind that there was no encouragement to me in their prognostications as to the result. They were unanimous in the assertion that the issue would be fatal. But it was not, although the patient had a hard time of it for a while. Secondly, the case is of interest in the condition which made her recovery slow and full of hazard. The fourth or fifth day showed evidences of profound septic infection. An abscess was at last discovered in the cul-de-sac of Douglas. After opening and washing it out and draining thoroughly, she passed on rapidly to a full recovery. This latter inflammation may

have so changed the remaining tube or ovary as to account for the subsequent sterility. No antiseptic precautions were adopted in this case.

*Case II.*—This case was one of double ovarian tumor. The right cyst was free, non-adherent, and easily removed. The left was universally adherent to the left side of the abdomen, to the small intestines, spleen, and stomach. Its contents were so gelatinous that they were scooped out with the hands, and the cyst-wall was so thin that it broke down in many places during these manipulations, allowing the contents to become disseminated about and around the abdominal organs. The oozing was very free from the extensive surfaces of adhesions and there was used a solution of persulphate of iron to check it. This remedy is a very unpleasant one to employ; this was the first and last case in which I have made use of it. The abdomen was washed and cleaned, as I thought, thoroughly.

A large-sized rubber drain was carried to the bottom of Douglas' cul-de-sac. The outer end of it was connected with a long rubber tube, carried outside of the bed and beneath it, and submerged in a solution of carbolic acid. The patient died on the third day of acute septicemia. The drain, carried to the bottom of the receptacle, gave exit to about two ounces of the contents of the cyst. It is fair to think that this case could be managed better to-day. No special antiseptic measures were adopted.

*Case IX.*—This case was the first tumor with purely colloid contents which I had come across. It was with the utmost difficulty that its contents could be emptied out of the rather small incision which exposed the tumor. Still, by persevering effort, it was all dug out, and as few and recent adhesions only were found, the empty sac was pressed out and rather easily removed. I have seen such cases treated by enlarging the abdominal incision in order to turn the mass out entirely. It has struck me that this method was not as good as emptying the cyst through the small incision. As all the cases turned out *en masse* have died, that fact may have influenced the formation of the opinion expressed. The cause of death may have been something else.

*Case XXVI.*—This case was the youngest person (7 years) upon whom I have operated. Owing to the great size of the tumor as compared with the size of the body, she presented a very odd appearance.

In order to maintain an equilibrium while in the erect position, the shoulders were thrown far back—a plumb dropped from the shoulders touched the floor six inches behind the heels.

The tumor was a dry one, and before it could be extruded the abdominal incision was prolonged above the umbilicus. For such a massive tumor the pedicle was very small as well as elongated. The weight of the tumor was fourteen pounds. The case was to me particularly interesting because it was the only one of the series in

which any attempt was made to carry out *in full* all the details of a Listerian operation, including the spray. Notwithstanding all this, an abscess formed in the left iliac fossa, which delayed the recovery for weeks and placed her life in great danger, especially as, even after it was opened externally, it seemed to empty internally into the bladder; large quantities of pus were passed from that viscus.

At the end of six weeks she had entirely recovered. This was the only case in which I have been haunted with the fear that I might have left some foreign body in the abdominal cavity, such as a sponge or a pair of forceps.

The sequelæ showed it to be a groundless fear fortunately. The subsequent history of this case is also interesting.

At the end of two years she again came under my care with the abdomen distended with a large growth.

This secondary growth commenced in the upper zone of the cavity and in its development increased downwards. It was diagnosed to be post-peritoneal, on account of the crackling which could be produced by manipulation in circumscribed spots over the surface of the tumor. The noise was evidently produced by the displacement of intestinal gases over limited spaces.

Upon opening the abdomen, the mass was found entirely behind the peritoneum, which was opened posteriorly and the tumor easily enucleated. As far as could be determined, the mass grew from the lesser end of the pancreas.

She did not survive the shock of the operation but a few hours. The mass proved to be sarcomatous. A post-mortem examination showed no traces of even the stump of the first tumor.

Dr. Fenger was present at the first operation and pronounced the tumor to be a heterologous growth.

With an entire absence of any remnants or signs of the primary tumor, it seems rather difficult to trace any connection between it and the secondary manifestation.

*Case XXXV.*—This was a case of double papillomatous ovarian cyst, in which the tumors had become intimately adherent, filled up the pelvis entirely, so as to absolutely conceal the womb and bladder. The cysts had ruptured so that in themselves they were small. The abdomen was distended with an immense quantity of free fluid. They were freely enucleated from their bed and from the surface of the uterus and bladder and removed. There was left as the result of this extensive peeling a surface coequal in size with the capacity of the pelvic basin. After securing the pedicles and a few spurting arteries, the bleeding was easily staunched and showed no disposition to return after the introduction of a large drainage tube to the bottom of the cavity and closing of the abdomen. I have never seen a larger flow of serum from a drainage tube than followed in this case for several days. Fortunately no infection of the general peritoneal surface had occurred, so that

the lady recovered very rapidly and is well and strong to-day. The free drainage in this case, I have no doubt, contributed very greatly to the easy recovery: without it I believe the patient would have been suffocated by accumulation of serum, certainly no powers of elimination could have removed the amount of fluid drained.

*Case XXXVII.*—This case was certainly the worst I have ever met with so far as extent and firmness of adhesions go. It was universally adherent to the abdominal walls, the small intestines, the bladder, the uterus, the under surface of the liver, and to the stomach. In fact, at only one place was a space as large as the surface of the hand untrammelled by adhesions. This was around and about the pedicle. After separating the attachments to the abdominal walls down to this space on the right side, the pedicle was ligated and divided. It seemed impossible to reach the limits of the tumor from the anterior surface upwards, so after securing the pedicle the sac was turned upwards and the separation of the adhesions carried on from behind. It was a very slow and tedious piece of work, separating coil after coil of small intestine. When the stomach was reached, the adhesions were found so firm and extensive that it was deemed best to leave a large piece of the external layer of the sac-wall attached thereto, rather than to try to separate them. This was accordingly done. All of the tumor except the piece left on the stomach was finally removed. There was not an excessive amount of bleeding, and the abdominal cavity was readily cleansed and a drain put in.

The operation was done in Nebraska, and I had to leave the patient within two hours after the operation was finished. She was then in good condition. She died on the sixth day, as the doctor in charge wrote me, with all the symptoms of unrelieved obstruction of the bowels. Perhaps if the abdomen had been reopened early in the manifestations of these symptoms, the obstruction might have been overcome, but this can only be a supposition. This was the second and last death in the series of fifty cases.

*Case XXXVIII.*—The tumor in this case was accidentally discovered while operating upon a growth developed in the abdominal walls over the neighborhood of the gall-bladder and from which there was removed a gall-stone of considerable size. Some months after the recovery from this operation, laparotomy was done for the small tumors which filled the pelvis and were developed from both ovaries—the right one much larger than the left, but both small. They proved to be ruptured cysts, showing papillomatous degeneration. Some six weeks after this operation, after the wound had united well and recovery seemed established, she developed increasing symptoms of bowel obstruction. Examination of the rectum revealed a cancerous mass at the upper end of the rectum, probably also involving the sigmoid flexure. She was anesthetized and the narrowed channel well dilated, sufficiently at

least to relieve the accumulated contents. Still the patient gradually emaciated, and at the end of a week or ten days succumbed to the effects of the complication.

*Case XLI.* is only remarkable from the age of the patient—78 years old—and the perfectly uneventful recovery after the operation. Looking back at the case, I remember the impression made upon me at the time was that she was the most contented patient ever under my care.

No anxiety or worry of any kind was manifested. Everything done was good enough for her and gracefully accepted. The querulousness and disposition to be exacting sometimes supposed to go with old age was never displayed. I am quite sure her peaceful disposition had much to do with her speedy and happy recovery. I have since operated on a lady 68 years old for an ovarian cyst, and the results were nearly alike. So far as these two cases are of account, nothing whatever occurred that would make quite old age militate against the performance of the operation. The shock did not seem so great as in many other easier cases in younger patients, and the reaction was quite as prompt and harmless.

The case under consideration was a large multilocular cyst with thick walls and septa. The previous tapplings had not apparently left any unfavorable conditions in their wake. The adhesions present gave no noticeable trouble.

*Case XLII.*--This was my first case of twisted pedicle. The inflammatory symptoms—peritonitis—high fever, and extreme prostration had existed several days before the patient came under my care. Operation was advised and done immediately. The bad symptoms subsided at once, and the recovery was uneventful.

There followed in due course quite a large ventral hernia, although primary union occurred in the wound, at least in the skin.

It is possible that the usual care in picking up surely each layer of the abdominal wall was not followed in closing the incision, but I was not aware of leaving anything undone in that respect at the time of the operation. The diagnosis of twisted pedicle was based upon the previous existence of the tumor, its sudden and rather rapid enlargement, extreme tenderness of the tumor followed by the usual symptoms of peritonitis and constitutional manifestations of early and severe character. There was present also a free flow of dark blood from the uterus, commencing with the first symptoms and persisting.

*Case XLV.* was the second tumor removed having very thick colloid contents. It was perfectly symmetrical and free from adhesions of any importance.

The contents were extremely tenacious, and their removal to diminish the size of the cyst was attended with extreme diffi-



culty. The cyst was held very carefully against the edges of the abdominal incision during these efforts, in order to avoid the entrance of any of the stuff into the peritoneal cavity. It is much easier to keep it out entirely than it is to get it out after it has once gained admission into that cavity. On two occasions the leaving of a very little of this material in the cavity in advertently has given rise to serious complications in my experience.

*Case L.*—This case was also one of twisted pedicle—the symptoms of rapid increase in size, tenderness, and uterine hemorrhage, coming on suddenly and persisting, with developing peritonitis, were plainly present in the case and early operation advised. Consent to operate was not obtained readily, and when the incision was made the cyst and pedicle were found black.

Ulceration between the living and dead portion of the pedicle had well advanced at the site of the twist lowest down on the pedicle. Its complete separation was unattended with hemorrhage. The case did well from the very first day.

#### *Remarks.*

It has always been my aim to do every one of the operations here recorded with closer and closer attention to absolute cleanliness of person, assistants, patient, and of appliances.

As time passed along, more experience gained, and complicating difficulties traced to their cause, after suffering manifold mental worry over them, this aim has been better and more certainly attained, with a corresponding increase in confidence in myself and ability to make assurances to the patient with an abiding faith in their fulfilment.

There is no doubt in my mind whatever about the good done a patient by relieving her mind of doubts and nervous dread preceding the operation, as can be done by confident assertion. The success attained in ovariectomy of late years warrants an indulgence in very strong assurances on the side of recovery in all classes of cases.

The attempts to secure asepsis—to surely save one's patient from the dangers of fermentation, suppuration, and decomposition of wound secretions—brooks no neglect of any kind, in the items already mentioned. It is not a pleasant thought to be forced to the conviction that you have rewarded the confidence and faith reposed in you by carrying to the afflicted one the elements which, once developed, so often destroy life, especially if the misfortune be the result of carelessness or over confidence. So nothing that is used or brought in contact with the patient should be allowed to pass without the closest inspection by the operator himself. The patient puts her life in the operator's hands, not in those of an assistant, and is entitled to the former's own care and attention to the smallest detail in the preparations of needles, for-



ceps, and instruments of all kinds, ligatures, sponges, and dressings. It is my conviction that sponges should not be used the second time in abdominal operations, no matter how well they are cleaned. They are so difficult to free absolutely from the contamination of blood and secretions that one can scarcely be sure of them. Besides, the operation is so well paid for in most instances, and the material so cheap, that there seems no excuse to run any risk whatever.

The greatest diligence should be observed in keeping everything harmful out of the peritoneal cavity. Reference is made not so much to foreign bodies of large or small size, although such ought never to occur, as to the escape of the contents of the cyst into the cavity. To me it has always been a very difficult undertaking to clear out any such secretions, especially if they are from a cyst with sticky contents. In two cases I worked for fully an hour in my desire to be sure that all particles had been removed, and yet in both cases an abscess subsequently formed, accompanied with a formidable temperature and general exhaustion. These accumulations were fortunately found and opened. Their contents showed more or less of the same material that filled the cyst, and the trouble was evidently dependent upon its presence in the cavity. The stuff will not flow through a drain easily, so that I am not sure its use would have overcome the difficulty.

The contents can usually be kept out of the peritoneal sac by making the cyst constantly expand the edges of the abdominal incision during the necessary manipulations, by careful pressure against the tumor by an assistant.

The ligatures used have always been of carbolized silk, and they have never given rise to any trouble. In the greatest number of cases the pedicle has been clamped, the tumor removed and the stump thoroughly cauterized down even with the clamp. Then the pedicle was sufficiently subdivided just below the clamp and ligated with silk, after which the clamp was removed and the stump dropped. I have never had, following this method, any bleeding, or been called upon to reapply the ligature, or fish up a stump out of the pelvis after it had been dropped, to stay hemorrhage. It is the method used by Dr. Homan, of Boston.

Accidents such as indicated have happened to me when using other methods, and I have seen them occur in the hands of other operators.

Perhaps I may be pardoned for uttering a warning against using the ends of a ligature just tied for the purpose of bringing the tied tissue into view for inspection, especially against using them to in any way steady or lift the pedicle. This latter should always be fixed and manipulated with a pair of forceps fixed to its edge below the site of ligation. On more than one occasion, traction on the ligature, apparently slight, has destroyed its com-

pression and induced bleeding, or even torn it entirely loose, necessitating a tedious search for the lost stump in order to re-tie it, and one never feels as certain of the security against hemorrhage after such an accident, aside from the delay and annoyance caused.

My experience confirms the great worth and necessity for the drainage tube in many cases. Cases with many vascular adhesions leaving extensive oozing surfaces seem to always require the drain. Many cases would undoubtedly do better with it, even in which the raw surface is not large. One is more apt to err on the side of leaving it out than of making use of it too frequently. It takes but little over-weight of absorption and elimination of even not badly contaminated fluids to upset a patient's easy recovery, which might have all been obviated by the use of a drain for twenty-four or forty-eight hours. I have not noticed much difference in its workings, whether it be of glass or rubber; I have used both and the object aimed at was accomplished by either equally well.

The abdominal wound has always been closed with the silk suture passed carefully and carried through the different layers of the abdominal walls, including the peritoneum. It does not seem that any more satisfactory method has been advanced. It is quickly executed, and absolutely trustworthy in the vast majority of cases. Two of my cases have had ventral hernia follow, but I am inclined to think other things had something to do with the occurrence of the complication; such as too early assumption of the erect position, too free motion, and discarding the abdominal support too soon. Very few of the cases have shown any suppuration in the track of the sutures, or other complication in the line of the incision, certainly no more than six gave any trouble whatever. In very thick, fat walls, the use of three or four button-stay sutures, introduced well away from the edges of the incision, is of great advantage in maintaining the parts in close apposition and conducing to early and firm union.

In the after-treatment of the earlier cases, it was the rule to use the catheter to empty the bladder six hours after operating. Quite a number of the cases developed a troublesome cystitis and in some cases a urethritis, no matter what care was taken with the instrument or in its introduction. Of late it is not used unless absolutely required. The patient is induced to make earnest efforts at self-relief, and success generally follows these efforts, and the cystitis has ceased to be a complication.

It has become my habit not to feel concerned about a temperature up to 101° Fahrenheit, coming during the first three or four days after an operation, if it be unaccompanied with unusual pain, headache, or anorexia. By securing a free action from the bowels by the administration of 5 grs. of hydrarg. submur., followed in due time by some saline cathartic, and urging the patient to partake freely of water, the temperature ordinarily drops to about

normal in twenty-four hours. If, with a nearly normal temperature for several days after operation, it suddenly mounts to 100° or more, some complication is impending, and it must be sought for with great care. Latterly it has been a surprise to me how many of the cases go on to a safe recovery without the administration of any medicine. If sepsis is avoided, the individual's own powers of repair seems entirely competent to combat other complications with the simplest of assistance. When pain is a complication, rectal injection of the *Tr. opii deodorata*, in full, free doses (30 drops or more), has always seemed to cause the least disturbance and accomplish the best results.

In none of these cases did there arise any necessity for reopening the abdominal wound.

The highest temperature recorded occurred in the twenty-sixth case, in which 104° was present for several days. The abscess was found and opened and the girl got well. Cases one and nine, forty-five and forty-seven also had abscess collections, with high temperatures. The collections of septic matter were opened where developed, and the cases finally recovered; but the complication entailed upon them a slow recovery and a weakened general condition which those escaped who passed through their ordeal free from such complication.

Both with these serious conditions and other slighter ailments less severe, but absent entirely in perfectly aseptic cases, the fault must be laid upon my own shoulders. At first lack of experience, then want of attention to detail in appliances or surroundings, and finally, perhaps, over self-confidence. It is my belief that he will have the best success who is modest enough to be haunted by some doubts about himself, and so to be ever on the watch to prevent the entrance of harm from without.

The internal remedies from which the best results have been obtained for the relief of tympanites are the *spts. terebinthina* and *tr. nux vomica*; the former to allay gaseous fermentation and as an antiseptic; the latter acting probably as a stimulant to intestinal peristalsis. It has never seemed to me that much of any good was accomplished by the rectal tube. It is not my wish to advise against its use, for many operators believe in its efficiency and use it constantly. It is quite possible that I do not use it skilfully. However that may be, I do not remember to have gained much if any good by its use. Cases in which the introduction of the rectal tube released any amount of gas could always relieve themselves by exercising a little will power, partially that of relaxation of the sphincter, mainly that of contraction of the abdominal walls. It has seemed to me that its presence in the rectum, if left there, as is practised by some, might be of service as a foreign body in exciting peristalsis.

Tympanites, like so many other complications when they come, is usually the result of septic infection, and is best dealt with by

keeping the germs away from the patient before, during, and after the operation.

The fluid I am in the habit of using for purposes of washing or irrigation is plain distilled or boiled water, with the addition of a small quantity of carbolic acid, making a solution of a strength of about two per cent. It does not seem certain that the germicidal power of this solution is of much consequence, still it does not seem worth while to dispense with it entirely. In washing out the peritoneal cavity, if occasion requires, a strong solution of boracic acid is used, and has done its work harmlessly and satisfactorily. Or course, reference is made here entirely to ovarian tumors, pure and simple. Infected cases, with pus present and other harmful fluids, require more powerful antiseptics and assiduous care in getting rid of their presence by every known means.

The fifth and thirty-fifth case of this series showed papillomatous degeneration and rupture of the cyst wall, with the presence of extensive accumulation of ascitic fluid, rendering the diagnosis extremely uncertain. I have operated on several cases since, and they have all been difficult to diagnose and to handle. Fortunately, these two presented no secondary infection of the peritoneum, and they recovered.

The diagnosis must be made by a process of exclusion:

Heart dropsy, by its absence of facial edema and heart lesions. Kidney dropsy, by the absence of leg edema and the signs of kidney degeneration as shown by the microscope. Ascites, from liver or vessel obstruction, by absence of the manifestations of disease of those organs, as shown by careful physical examination and inquiry as to their usual constitutional manifestations.

Digital examination in all the cases seen by me has demonstrated the presence of a somewhat circumscribed mass in the pelvis from which the uterus could be isolated. The feel of the mass itself gives one the sensation of touching an irregular, doughy, cauliflower-like tumor. The differential diagnosis from tubercular peritonitis with ascites will be, in the absence of the tumor from the pelvis and the presence of a greater or less number of irregular, hard, perhaps movable, masses distributed through the cavity showing involvement of the omentum.

Differential diagnosis of cancer will be probably in the fact that the latter shows less ascitic accumulation, a more easily defined mass much harder to the touch. Examined through the pelvis, every tissue is apt to show infiltration; the uterus is fixed and implicated in the growth; the roof of the pelvis everywhere hard and resisting. There will more likely be evidence of interference with the circulation in one limb, as shown by edema confined to one side. Enlarged and tortuous external abdominal veins and more rapid and profound constitutional manifestations will be present. Even after rupture of the sac and moderate infection of

the peritoneum, these cases seem to do perfectly well after operation and removal.

It seems to be of paramount importance to institute such care of the patient as will most surely prevent, diminish, or overcome the occurrence of shock. After every severe operation, much can be done by the use of external warmth and also care during the progress, by keeping wet clothes away from the body. I am still convinced of the efficacy of morphia and quinia administered half an hour or so previous to the commencement of an operation.

It can scarcely be denied that the patients do best if little, or better still, nothing is put into the stomach for twenty-four hours or more. If introduced, the effect is merely to increase the disposition to vomit.

Judging from the results of considerably over one hundred laparotomies for different diseases, I think it proper to say that as a rule an operation for the relief of a simple ovarian tumor is about the simplest proceeding the surgeon is called upon to do in the abdominal cavity, and one from which the patient is most likely to recover.

DR. C. T. PARKES, in closing the discussion, said: There is very little to say, except, perhaps, in reference to what was said about the simplicity of the operation. I tried to make it plain that in reference to many other operations that are done in the abdominal cavity it is simple, not in reference to all operations. Surgeons in all parts of the country are doing ovariectomy, and the result is favorable in most of these cases; it must be a simple operation or the results would not be so favorable.

I believe I was right in Dr. Jaggard's case in saying that the technique of Cesarean section is simple. It is not simple for the patient and never will be. The only reason why it can ever be safe rests in the employment of aseptic surgery. So I believe that laparotomy for simple ovarian tumor, compared with other operations the surgeon is called upon to do in the abdominal cavity, is the simplest.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

---

*Meeting of January 12th, 1888.*

*The President, DR. GUSTAV ZINKE, in the Chair.*

DR. E. S. MCKEE gave a brief but thorough resumé of the methods of external examination as employed for diagnosis during pregnancy and labor.

DR. PALMER thought that the paper of the essayist was both interesting and important, not that it contained anything new or



original, but because it has directed our attention to a subject too much neglected. That the external examination, thoroughly made, is capable of teaching us a great deal no one can doubt. We can learn the existence of pregnancy, its duration, character, the presentation, and often, the position. Our fingers and hands can be educated to do what to the novice seems incredible. The essayist has referred to the fact that the umbilicus is not always the exact point through which the transverse line should be drawn, in dividing the external abdominal surface into the upper and lower areas. As the umbilicus is a movable point, this line may be above or below it.

And this transverse line, together with the perpendicular line from the ensiform cartilage to the symphysis pubis, make four sectional areas, within which (either four), the detection of the fetal heart sound or its greatest intensity affords valuable means in the diagnosis of the presentation and position of the fetus.

Without any doubt the external examination should be thoroughly made in all cases of labor, if there is time for it, and it should precede the internal examination. Its use precedes, corroborates the internal, and may render unnecessary the ordinary frequent internal examinations. But can it, ought it, to supersede the internal in any case? We think not. Notwithstanding that the obstetrician, exposed as he is constantly to many sources of infection, is the most dangerous one coming in contact with the parturient woman, and as doubtless frequent and unnecessary examinations increase this risk of his contact; nevertheless, with these examinations reduced to a minimum number consistent with the determining of the internal diagnostic points and the progress of labor, and with the observance of strict antiseptic precautions, there is practically little or no risk. Credé goes too far when he intimates that the internal examination should be omitted. We cannot dispense with it and learn what we otherwise can and ought to know in every delivery. Nor are there any good reasons in these days of antiseptic midwifery why it should be neglected.

DR. W. H. WENNING said it was hardly necessary to defend the value of external obstetric examination at this day, as it is one of the established methods of diagnosis now practised by all good obstetricians; but he would call attention to the fact, from personal experience, that it is not always so easy a matter as is represented. The speaker resorted to the external examination in every case of labor as the first step as soon as he was called. He did this for two reasons: first, to inform himself as much as possible of the position and presentation of the child, and, secondly, to obtain the good-will of the patient, particularly if a stranger to him and a primipara, as preparatory to the second step, or internal examination. Besides these there was for him another, personal reason, and that was to educate as much as possible the so-called *tactus eruditus*. This brought him to speak of the difficulties that are often encountered in making this examination, particularly palpation. As already stated, if the abdominal walls are thin and relaxed and the patient not excited, the fetal parts are easily mapped out. He laid particular stress upon the irritability of the patient, and hence of the uterus, which might often frustrate the results of the examination. In some patients the uterus seems to become hard and globular, especially if there be a considerable amount of liquor amnii, so that it is with the utmost difficulty that any difference can be found between the two sides of the uterus. In other



instances the placenta may be of such a size and form as to simulate one of the polar extremities of the child. The speaker had this experience but recently. A young woman was in her third pregnancy, the second having been with twins. As the woman was again rather large in this period, although of small stature, and the two sides of the abdomen seemed about equal in dimensions, and a hard round body could be felt at about the same level on each side of the median line, there was strong presumption that she was again to bear twins, particularly as this had occurred before, and was therefore more likely to be repeated. A combined external and internal examination presented no difficulty in mapping out one fetus on the left side in the first position, but still left the hard and round body on the right side to be accounted for. (The fetal sounds of but one fetus would, of course, not militate against the presence of a second, as this might easily elude auscultation.) Labor progressed naturally, but one fetus being born. The remaining mass, after the birth of the child, felt just as it did before, but proved to be the placenta, which externally had imparted the sensation of either the head or breech of a second child. It is possible that a more skilful observer would have solved this perplexity more easily, but the speaker related the fact simply to show the possibility of fallacies, should we rely on external palpation alone.

Where there is a large deposit of adipose tissue between the uterus and external walls of the abdomen, it is almost impossible to come to any correct conclusion, at least as regards position and presentation of the fetus.

The speaker would, however, direct attention to one important advantage of abdominal examination; namely, to establish a diagnosis of pregnancy in the unmarried. In such instances abdominal examination should *always*, and if possible, *exclusively* be made first. It is always painful for a virgin, physically and morally, to submit to a vaginal examination, and what cannot be learned by external examination cannot be ascertained by the latter.

There can be no question, also, that before, and even in the early stage of labor, often more valuable points of diagnosis as to position and presentation of the fetus can be obtained from an external examination alone, than by an exclusively internal examination. The other points of argument in regard to antisepsis or rather asepsis, have already been answered.

Another great argument in favor of abdominal palpation, particularly towards the end of pregnancy, is the possibility of correcting a malpresentation more easily; for abdominal palpation is nothing more than the first step in external version.

To sum up, then, the speaker would recommend the practice of external examination in all cases, but in labor *conjointly* with internal examination. To establish the diagnosis of pregnancy, especially in the unmarried, it should first be relied upon *exclusively*.

DR. T. P. WHITE was decidedly in favor of abdominal palpation; thought, as already stated by one of the speakers, that the patient became better prepared for vaginal examination by first using palpation; was convinced that with a little practice all the positions could be determined by the use of this method alone, but did not think that vaginal examination could be entirely discarded in private practice, as it afforded the surest means of determining the progress and probable duration of the case. Of course, frequent

examinations were to be avoided, and the strictest rules of cleanliness and antiseptics observed. That it was a waste of time, as observed by another speaker, was not valid, as every physician was supposed to bestow at least as much time as necessary to make a thorough examination at his first visit.

DR. G. S. MITCHELL considered the practice of external examination a valuable method of diagnosis in pregnancy, and was perfectly agreed that the cultivation of the *tactus eruditus* should be diligently pursued. He could not, however, understand how we could rely on external measures alone for exact diagnosis. A positive diagnosis of pregnancy, even by internal examination, can only be made after the first half of the gestation period, and if we are called upon to make the examination at the time of labor, an external method alone will not give us the proper information as to the progress of labor, the condition of the neck, the dilation of the os, etc.—all points which can only be ascertained by an internal examination. If we conjoin the two, we are much better informed, and may save time in getting some hours of sleep, etc. Moreover, a patient will not easily submit before term even to an external examination, but when labor is at hand there can be no objection to an internal examination. He would grant that a vaginal examination should be made as rarely as possible, and then with proper antiseptic precautions. Speaker thought the habit of some obstetricians of making frequent examinations and allowing the finger to remain for a long time in the vagina, a most reprehensible practice.

DR. E. W. MITCHELL thought that, in discussing the relative value of external and internal examination, one important point had been omitted. In *primiparae* it is important to know if there existed any contraction of the pelvis. This fact cannot be ascertained by an exclusively external examination, but requires always an internal examination. He would admit, however, that in the majority of instances not alone the presentation, but also the position of the child could be made out.

DR. H. ILLOWY said in the paper of the essayist there was another important point that had not been discussed, namely, the statement was made that if the temperature of the mother remain over  $104^{\circ}$  for some time, we might be assured that the fetus was dead. The speaker had a case where the natural temperature for six months was on an average of  $105^{\circ}$  F., beginning several weeks before the fourth month of pregnancy, and yet the woman was delivered of a living child. He believed every one could recall cases where a temperature of  $104^{\circ}$  did not interfere with the life of a child.

DR. McKEE, in closing the discussion, said that he would not endorse all of Credé's ideas about external examination supplanting the internal, but he thought we should cultivate to the utmost the external methods, and, when occasions arise, as they are sure to, when it would be safest to omit the vaginal examination, we could do so with reasonable safety. It is wonderful how much one can learn by practice in this regard. He had been able in numerous cases to make out more and gain greater satisfaction from an external examination than an internal one. We have in the latter only a small portion of the fetus at command, while in the former we have almost all. As to patients objecting, if they think it some new notion, of course they will; but if the real worth of the examination is explained to them they will readily submit.

As regards the fate of the fetus, if the temperature of the mother rises above  $104^{\circ}$ , he was of the opinion that it usually dies.

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, May 2d, 1888.

JOHN WILLIAMS, M.D., *President, in the Chair.*

*Specimens.*—MR. DORAN, glandular structure in the substance of a primary cancer of the Fallopian tube.

DR. GALABIN, microscopic section of tube from a case of tubal gestation at fourth or fifth week.

DR. GRIFFITH, 1, microscopic section of oviduct of frog, showing tubular glands.

2. Microscopic section from a case of interstitial gestation, showing mucous follicles in the muscular wall of the Fallopian tube.

DR. HORROCKS, completely inverted uterus removed by operation.

### CYST CONNECTED WITH UTERUS AND SIMULATING ENLARGEMENT OF THAT ORGAN.

DR. CULLINGWORTH described the case of a woman, aged 23, admitted into hospital on Nov. 23d, 1886, with an abdominal swelling which had been observed for five months. The catamenia were regular, but during her last pregnancy they had continued to the seventh month. The swelling fluctuated distinctly, and reached upwards as high as half-way between the umbilicus and the ensiform cartilage. A soft bruit, synchronous with the radial pulse, could be heard, especially towards the left iliac region. The uterus lay high in the pelvis, and was intimately connected with the tumor; no fetal heart-sounds could be heard. She left hospital, but returned on December 20th, sudden abdominal pain having followed an attack of profuse metrorrhagia, and the abdomen, which had been very tense, became soft as the pain set in. She was pale and collapsed when readmitted; high temperature followed. By Dec. 26th, she had greatly improved. A distinct, firm, elongated movable tumor could be felt in the lower part of the abdomen. Ascitic distention of the abdomen took place. On January 19th, 1887, Dr. Cullingworth performed abdominal section. Six pints of ascitic fluid were cleared away, and there were evidences of recent peritonitis. The uterus, or what appeared to be the uterus, was enlarged as at the fifth month of pregnancy;

Douglas' pouch was obliterated by adhesions. The right ovary, as large as a hen's egg, and the tube were found to be covered with recent lymph; they were ligatured and removed. The left ovary was normal. The omentum was enormously thickened. Nothing like a ruptured cyst was detected. The patient died with symptoms of catarrhal pneumonia eleven days after the operation. At the necropsy, the uterus was found to be of normal size, and what had appeared to be the enlarged uterus, proved to be a thick-walled cyst containing a quantity of thick, opalescent, jelly-like fluid in which were some portions of tissue like softened parchment. The left Fallopian tube ran along for some distance in the wall of the cyst, but did not anywhere communicate with it. No fetal remains could be found. A thickened patch of tissue in the cyst-wall was carefully examined, but Dr. T. Harris (Manchester), who examined it when fresh, could find no evidence that it represented degenerated placental tissue. The specimen had been referred to a committee after its exhibition before the Society in April. Their report was now read; the parts were minutely described, and it was concluded that it was impossible to say whether the tumor was a cyst which had grown, possibly from the left broad ligament, and extended to the right between the uterus and rectum, thus becoming adherent to the surrounding parts, or whether, on the other hand, it was the product of an inflammatory process with pseudocystic walls. The cyst had completely separated the posterior part of the uterus from its peritoneal coat. Douglas' pouch lay behind the cyst, obliterated by adhesions.

MR. BLAND SUTTON believed that the cyst really represented hydatid disease.

DR. HORROCKS thought that the thickness of the middle muscular coat negatived that supposition.

MR. SUTTON considered that the presence of a layer of muscle fibre supported his view.

DR. CULLINGWORTH regretted that the fluid from the cyst had not been examined; he was inclined to agree with Mr. Sutton's theory.

MR. ALBAN DORAN admitted that the cyst occupied the position noted by Freund and others in their recorded cases of hydatid disease of the pelvis. But hydatids were usually much disseminated, and none were discovered at the necropsy on Dr. Cullingworth's case.

DR. HEWITT had seen a case where a hydatid tumor was found in the same situation as in Dr. Cullingworth's specimen.

#### THE GLANDS OF THE FALLOPIAN TUBES AND THEIR FUNCTION.

MR. BLAND SUTTON endeavored to show that the mucous membrane of the tubes in the human subject was, contrary to the current opinion, glandular, and that the tubes themselves had a function beyond acting as simple passages for ova. Their structure had been so thoroughly investigated by competent histologists that the question was merely a matter of interpretation. The

homology of the various parts of the human uterus and the avian oviduct was described, and the function of those parts considered. Thus the infundibulum and the albumen segment of the oviduct corresponded with the Fallopian tube and its fimbriæ. The shell-forming segment and the uterus proper were homologous. The vagina was the homologue of the isthmus and the oviducal portion of the cloaca. The nature of a gland was considered, and comparison made between the epithelial diverticula of the oviduct, the uterus, and Fallopian tubes, in order to show that the so-called rugæ of these tubes were really glandular diverticula, whose function was to secrete an albuminous material comparable to the albumen of an egg. From this substance the embryo obtained pabulum by means of the chorionic villi.

MR. ALBAN DORAN stated that Hennig had shown, about fourteen years ago, that there were glands in the Fallopian tube, but had not convinced authorities in respect to his theory. Mr. Sutton had more thoroughly demonstrated the glandular nature of the tubal mucous membrane, but sceptical scientists might demand more practical evidence, in the shape of microscopic preparations and accurate diagrams, than could be afforded by his undoubtedly able arguments alone.

DR. GRIFFITH insisted that in discussing the function of the highly specialized mucous membrane of the human oviduct, the glands found in the oviducts of many lower vertebrates should have been taken into consideration by Mr. Sutton.

In reply, MR. SUTTON admitted the value of studying the oviduct in the lower vertebrates, but when it came to be a question of structural peculiarity in a mammal, the oviducts in lower forms afforded little that was trustworthy. Doubtless the opinion, that the rugæ of the tube were glandular in function, had occurred to many, but they lacked the boldness or, perhaps, rashness to express it.

HEMIPLEGIA OCCURRING NINE DAYS AFTER PARTURITION: DEATH;  
PARTIAL POST-MORTEM EXAMINATION.

This case was recorded by DR. E. F. SCOUGAL (Huddersfield). A patient, aged 37, was confined on August 21st, 1887, of her seventh child. All went well till August 28th, when she complained of numbness and tingling in the first, second, and third fingers of the left hand. At 1:30 A.M. on August 29th, the nurse noticed that, amongst other symptoms, the patient's mouth was slightly drawn to the right. At 3:30 P.M., she was found as follows: Complete paralysis of the left arm and paresis of the left leg; slight divergent strabismus of the right eye, and the mouth slightly drawn to the right side. There had been a little difficulty in swallowing, which had now passed away. Consciousness and speech were unaffected; there was some pain on the right side of the head. The skin was moist, temperature normal, pulse 96; no loss of sensation could be detected. Three and a half grains of calomel pill was given, to be followed by two ounces of Æsculap water every two hours till catharsis was produced, and a draught



containing iodide of potassium and citrate of potash was prescribed. By 1 P.M., the left leg was completely paralyzed. In the course of the next day, drowsiness came on, the bowels were opened by enemata; later on, restlessness and increased pain in the right side of the head were observed, the temperature rose to 99.2°, pulse was irregular in rhythm and power, varying from 72 to 84. The secretion of milk had quite disappeared by August 31st. The patient became comatose, and died at 2:15 on September 1st. The brain alone was examined after death. A clot was found in a vein on the surface of the brain corresponding in position to the right middle meningeal artery, and another in a vein corresponding in position to the right middle cerebral artery. These clots were distinctly *ante-mortem*. There was no sign of thrombi in the sinuses. The brain, pons, and medulla exhibited no trace of extravasations, or of any other morbid appearance.

Dr. LEITH NAPIER observed that puerperal hemiplegia was practically due to thrombosis, embolism, or reflex influences; the first cause being the most frequent.

A CASE OF EXTIRPATION OF THE UTERUS FOR PRIMARY CARCINOMA  
OF THE BODY.

This communication was read by Dr. LEWERS. The patient was 58 years of age, and had had one child. She had been subject to uterine hemorrhage for ten months, accompanied ultimately with watery discharge, severe pain radiating to the thighs, and emaciation. On vaginal examination, February 26th, 1886, the vaginal portion of the cervix was found normal, a hard lump was felt posteriorly, apparently in the supra-vaginal part of the cervix. The uterus, examined under chloroform, was freely movable, the body evidently enlarged. Through the speculum some blood-stained discharge was seen issuing from the os. The sound was then passed and afterwards small fragments of a soft material appeared in the discharge. On March 1st, 1886, vaginal extirpation of the uterus was performed. The perineum was incised, to gain room. The bladder was separated from the uterus, the utero-vesical reflexion of peritoneum being, at this stage, left uncut. Douglas' pouch was then opened to a small extent with scissors, and the aperture enlarged by laceration effected with the fingers. The utero-vesical fold was then torn through from below, as the size of the uterus prevented the operator from passing his fingers along the back of the uterus and over the fundus so as to give a guide to the cutting through of that fold. The ends of the anterior and posterior incisions were united laterally, by cutting, at first, through the mucous membrane only. The lateral attachments of the cervix were tied on each side by silk ligatures passed with the aid of an aneurism needle from behind forwards. The cervix was cleared as high as the level of the internal os. Each broad ligament was transfixed and tied in two halves, stout silk ligatures being employed. The broad ligaments were then cut through and




the uterus separated; on account of its bulk it could not be retroverted and brought out fundus foremost. The peritoneal wound was closed with silver sutures, the ends of the broad ligaments being adapted between the edges of the wound. A small drainage-tube was introduced into Douglas' pouch; it was found loose in the vagina two days later. The vagina was filled with eucalyptus gauze sprinkled with iodoform. The patient made a good recovery. The uterus was found to contain a papillary growth occupying the right side of its cavity and separated from the healthy mucous membrane by a sharp line of demarcation. She continued in good health for several months, at length a lump could be found in the upper part of the vagina, followed by secondary deposits in the lumbar glands. She died in hospital sixteen months and one week after the operation. Dr. Lewers considered that the patient had enjoyed ten months of renewed health and comfort, owing to the operation which had prolonged her life.

The PRESIDENT was glad that Dr. Lewers had not published his case until able to give a complete account of it. Total extirpation of the uterus for cancer of the cervix was not justified, because supra-vaginal amputation was less dangerous and furnished as good results; recurrence, when it took place, appeared in the cellular tissue around the cervix and not in the uterine stump. The scanty data at our disposal did not put us in a position to judge the value of total extirpation for cancer of the body. The mortality was high and recurrence, in most instances, so early that it remained doubtful if in the majority of cases life were prolonged. Still, it could not be doubted that a longer or shorter respite from suffering was given in all cases which recovered from the operation.


---

## ABSTRACTS.

---

1. Max Saenger: Perineorrhaphy by Separation of the Recto-vaginal Septum and the Formation of a Flap (*Volkmann's Sammlung*, No. 301).—The steps of this operation are thus described by S.: *Incomplete laceration*.—A large sponge or cotton tampon is inserted into the rectum to make the posterior vaginal wall tense. The recto-vaginal septum is split by means of a pair of sharp-pointed scissors, curved on the flat, to the extent of about one inch upwards and one and a half inches transversely. At each extremity of this incision two vertical cuts are made up to the point where the labia minora merge into the labia majora. The shape of the incision is . The flap thus formed is held upwards, and the edges are brought together by deep silver sutures and superficial silk-worm gut sutures. The deep sutures are removed on the fourteenth, the superficial on the seventh day.

*Rectocele, with or without laceration of the perineum*.—Similar steps,

with the exception that the vertical incisions are carried further forward. *Laceration through the sphincter*.—The septum is split transversely, by means of a scalpel, to form a rectal and a vaginal flap. The vertical incisions are similarly made, and are carried backwards to the ends of the sphincter muscle, forming a denuded surface similar to the figure . The vaginal flap is pulled forwards, the rectal backwards, and the surfaces are united as above, the sutures being inserted from the perineal side alone to avoid the formation of a fistula.

S. prefers these methods above all the routine ones, claiming for them simplicity and certainty in result. He has thus operated nineteen times and tabulates the cases. The cuts showing the various steps of the operation are of decided assistance in exemplifying the technique.

**2. Wyder: Perforation, the Induction of Premature Labor, and the Cesarean Section in Case of Contracted Pelvis** (*Archiv f. Gyn.*, XXXII., 1).—The low mortality rate which the improved Cesarean section is able to show is leading many obstetricians to favor it over other operations in every instance where the child is living. Whilst W. grants that in the near future such an assertion may be warrantable, he claims that, for the present, it is premature. His deduction is based largely on the study of 15,000 cases of labor occurring in Berlin, and he tabulates the instances in which craniotomy or induced labor was necessary. The figures are compared with those obtained at the Halle and the Leipzig clinics, and these we reproduce:

**A.—Perforation:**

Berlin.....	104 cases.	with 6 deaths	(5.8 per cent).
Halle.....	35	“ 2 “	(5.7 per cent).
Leipzig. ...	76	“ 4 “	(5.3 per cent).
<hr/>			
Total, 215	“	“ 12 “	(5.6 per cent).

**B.—Premature Labor: 306 cases, mortality of 3.9 per cent.**

It is noteworthy that in both of these groups the mortality was *nil* in the very class of cases where the Cesarean section would be strongly indicated, that is, in the class of cases where the pelvic deformity was the greatest.

The above figures are next compared with those yielded by the modified Cesarean section, the first 50 cases reported by Saenger being analyzed. These figures prove that the mortality from the Cesarean section is in case of the contracted pelvis 2.13 times higher than that yielded by craniotomy, and 3.37 times higher than that yielded by induced labor. When performed in the presence of a relative indication, the Cesarean section yields a mortality rate 7.1 times higher than that following resort to the induction of premature labor.

From a study of these data W. formulates the following general deductions: The life of the child should be guarded as long as possible, but when the life of the mother is at stake, no account should be taken of the child, but that operation selected which will give the mother the best chance. The question each man is called upon to face is: What would you do in case this patient were your wife, sister, or other relative? Where the pelvic deformity is of high degree (conjugate 5.5

centimetres), and pregnancy is near term, it can only be a question of the Cesarean section. As long as the mortality rate from the section is 17.9 per cent, and that from induced labor is 0 per cent, the latter should be selected when feasible, unless the mother expresses the desire that account should be taken of the child. Where the conjugate varies from  $2\frac{1}{2}$  to  $2\frac{3}{4}$  inches, and gestation has advanced too far to allow us to think of the induction of premature labor, craniotomy and Cesarean section are on a par, and where the surroundings for the latter are favorable, it should be given the choice over the former. The Cesarean section, however, must as yet be reserved for hospitals and for experts. In private practice craniotomy will continue the operation of choice, at least until the mortality rate from it and from the section become similar.

**3. Obermann: A Contribution to the Treatment of Placenta Previa** (*Archiv f. Gyn.*, XXXII., 1).—The statistics utilized are from Credé's Clinic at Leipzig, there occurring 64 cases of placenta previa from the beginning of 1883 to the end of 1887; the maternal mortality being 11 per cent, and 55 per cent for the children. In 49 instances, the treatment consisted in combined version and slow extraction, and, excluding one maternal death, owing to the hopelessness of the case when first seen, the maternal mortality by this method was 2.1 per cent, which is even better than that recorded by Hofmeier from the same method—2.7 per cent. The maternal mortality in 15 cases treated by other methods was  $33\frac{1}{2}$  per cent. These data are offered as additional testimony in favor of the treatment of placenta previa by means of version after Braxton Hicks' method, followed by slow extraction.

**4. Nordmann: Statistics and Treatment of Placenta Previa** (*Archiv f. Gyn.*, XXXII., 1).—The aim of this paper is to solve the question as to whether the preferable method of treatment is by combined version and slow extraction. Forty-five cases occurring at the Dresden clinic, in a total of 5,779 labors, are utilized. Twelve cases were treated by tampon or colpeurynter, with or without rupture of the membranes, delivery being allowed to take place spontaneously, with a maternal mortality of 0 per cent, and an infantile of 16.6 per cent, excluding the cases where the fetus was dead when first seen. In twenty-three cases, version was performed followed by immediate extraction, the maternal mortality being 17.3 per cent, and the infantile 5.8 per cent, excluding cases where the fetal heart was never heard. In six cases, version and slow extraction was the method of treatment, one mother dying of sepsis and all the children being delivered dead. Although these data decidedly speak in favor of the first method of treatment, it should be noted that, in all the cases so treated, there was marginal insertion of the placenta, an insertion which does not expose the mother to the same risk as the total insertion. By the second method the greatest number of children were saved. N. concludes that this method is preferable in hospital practice, whilst in private practice version and slow extraction should be the rule, notwithstanding the excessive infantile mortality. In case of placenta previa marginalis, the tampon will answer well both from the standpoint of the mother and of the child.

**5. Ziegenspeck: Cysts in the Hymen of the New-born** (*Archiv f. Gyn.*, XXXII., 1).—Such instances are rare. Winckel has reported two cases, Döderlein one case, and Z. herein records two further cases.

**6. Leopold: The Prevention of Puerperal Fever** (*Deutsch. med. Woch.*, No. 25, 1887).—From May 1st, 1886, to May 1st, 1887, 1,403 deliveries occurred at L.'s clinic, the mortality from sepsis being *nil*, and in the last 500 confinements the septic morbidity was limited to a single case of parametritis. The following are the rules for disinfection of the patient and the attendants which he insists upon: The external genitals are washed with a 1:4,000 sublimate solution and the vagina is irrigated with the same at the onset of labor. The attendants wash their hands and arms with soap and warm water by means of a brush for five minutes, neither sublimate nor carbolic being added to the water. They are next brushed for three minutes in warm sublimate 1:200, and finally are dipped in sublimate 1:1,000 for one-half minute. These preliminaries precede every vaginal examination. Stress is laid on the fact that the chief point of the cleansing process is the first protracted washing in warm water without the addition of any antiseptic. The subsequent use of sublimate is deemed just as important, but L. claims that the hands may be more thoroughly disinfected when the creases have first been thoroughly soaked and brushed.

**7. Pinard: Multiple Hydatid Cysts Complicating Delivery** (*Annales de Gyn. et d'Obst.*, April, 1883).—Instances of this nature are very exceptional, and a personal case is herein recorded. Puncture of the large cyst filling the vagina allowed the delivery of a living child. The mother died of sepsis and at the autopsy eleven cysts of varying size were found in the abdomen, the one which had caused the dystocia lying between the layers of the right broad ligament and extending down into the posterior cul-de-sac. The largest of the cysts occupied the liver and this was probably the source of the daughter-cysts.

**8. E. Winter: The Micro-organisms in the Genital Canal of the Healthy Woman** (*Ztschrift. f. Geb. u. Gyn.*, XIV., 2).—From an elaborate series of researches the following questions, of great practical import, are answered: In what portion of the genital tract of the healthy woman are micro-organisms found? What is their nature, and are they pathogenetic? From an examination of forty Fallopian tubes removed in connection with myotomies, ovariectomies, and total uterine extirpations, the conclusion is reached that the tube, in normal condition, contains no micro-organisms; of thirty uteri, in no instance did the body contain organisms, whilst in one-half they were present in the neighborhood of the internal os. The secretion from the cervix was found to be plentifully supplied with micro-organisms, the number of which, in particular the bacillus, was markedly increased during pregnancy. Micro-organisms were always present in the vaginal secretions. The internal os, therefore, seems to constitute a boundary line beyond which, in the healthy female, micro-organisms do not exist. From a series of culture experiments, the further fact was noted that, in half the cases examined, the organisms were pathogenetic in a state of weakened virulency, the staphylococcus predominating.

The practical lesson to be drawn from this series of experiments is the necessity of careful disinfection of the vagina and cervix precedent to any manipulation of the uterus. It being established that pathogenetic micro-organisms exist normally in the genital canal, and that, although their virulence is weakened, this may, under conditions as yet undetermined, be strengthened, self-infection may with certainty be prevented by such stringent disinfection of the vagina and cervix as has to-day become a matter of routine.

**9. Livius Fuerst: Suspicious and Malignant Adenoma of the Cervix** (*Ztschrift. f. Geb. u. Gyn.*, XIV., 2).—The following are the practical deductions from this study: Simple adenoma of the uterus (simple glandular hyperplasia), in which the uterine glands, although increased and enlarged, have not lost their typical characteristics, and in which, further, although the interstitial tissue is altered, there is no special cellular infiltration of this tissue and no tendency to extend into the deeper parts, such tumors are to be considered as benign. Yet it is advisable to resort to excision, inasmuch as these tumors tend to become malignant. 2. The suspicious adenoma of the uterus (destructive glandular hyperplasia), whether localized or diffused, where there exists a tendency to atypical gland change and cellular infiltration of the interstitial tissue and extension into the depth, is to be considered as malignant or with such a strong tendency in that direction as to call for total extirpation of the uterus. 3. Adeno-carcinoma of the uterus, where the typical glands have in great part disappeared and where epithelial infiltration and cancer nests exist, is to be considered as absolutely malignant. Total extirpation of the uterus is called for, although the prognosis as regards cure is dubious, owing to the fact that the disease is likely to have spread beyond the reach of the knife. 4. In every case it is essential to subject a piece of the growth to the microscope, since thus alone can the benign or malignant nature be determined. Further, all unnecessary manipulation does more harm than good, since it favors recurrence.

**10. Alexander Duke: A New Operation for Repair of Lacerated Perineum.**—The patient having been prepared by the usual preliminary steps required for the old operation, when under the influence of an anesthetic, is placed either in the lithotomy or Sims' position, the left index finger being introduced almost its entire length into the rectum, a long straight double-edged bistoury is made to pierce the tissues in front of the anus at right angles to the vulva; and, guided by the finger in the rectum, is made to penetrate the septum for  $2\frac{1}{2}$  inches upwards, the incision being enlarged laterally to two inches at least as the knife is withdrawn.

On the two points of incision being pressed together from side to side, a lozenge-shaped opening appears, and when all the sutures required have been introduced and are properly adjusted and approximated, the two cut surfaces are brought into direct apposition.

The sutures are introduced by a strong cycle-shaped needle with eye in point mounted on handle, strong silver wire being the suture pre-

ferred. The needle is introduced at centre of skin incision below, and, guided by the finger in rectum, is made to travel over cut surface to its full extent above, describing the arc of a circle, and on the point of needle appearing directly opposite is threaded with suture and drawn through.

On the ends of this suture being pulled together by the fingers, a good idea can be formed of how many additional stitches may be required. When all considered necessary have been introduced and approximated, a finger of each hand passed into rectum and vagina will at once recognize the gain in thickness of septum, the external tissue being pushed fully an inch forwards from anus, and forming a thick and solid perineal body.

The incision being a deep one, on union taking place between the raw surfaces, a considerable depth of support must be afforded where a pessary is required, or where there is much tendency to prolapse of the uterus or vaginal walls. The author's experience of the operation, although up to the present limited, has satisfied him with the results, and there being no loss of tissue whatever, should the operation fail, it cannot add any difficulty to a subsequent one.

Even should the perineum be lacerated to very verge of anus, what is described can be done. D. finds that leaving the sutures for only three days is best, but if the union is not strong he cuts the wire, leaving it *in situ* for a day or two longer, thus affording some support and relieving the strain on the edge of suture holes; he also supports the parts by long strips of adhesive plaster carried from hip to hip over new perineum.

The suture should be stout silver wire and not too tightly twisted. The advantages claimed for the operation are briefly these :

1. The simplest of performances as yet proposed. No danger of hemorrhage, the surfaces being brought together at once, wound dry and clean.
2. No danger of sepsis, as the incision is not open for the admission of any discharge from either vagina or rectum during healing process.
3. No loss of tissue, and consequently no harm done should the operation fail.

---

## ITEMS.

---

1. DARTMOUTH MEDICAL COLLEGE:—Dr. W. H. PARISH, of Philadelphia, will deliver the lectures on Obstetrics during the coming season, and Dr. PAUL F. MUNDÉ, who resigned the chair of Gynecology a year ago after occupying it during seven years, has consented to deliver the course on Gynecology this year, beginning July 12th. The faculty expect to fill both chairs permanently next year.



2. THE AMERICAN GYNECOLOGICAL SOCIETY has decided to change the place of its next meeting from Boston to Washington, D. C., where it will meet at the same time as the American Congress of Physicians and Surgeons, from September 17th to 19th. The following are the titles of the papers to be read, as reported to date: "On the New Cesarean Section," by Dr. William T. Lusk, of New York; "The Cause and Treatment of Urethrocele," by Dr. Thomas Addis Emmet, of New York; "Ureteritis—its Diagnosis and Symptomatology," by Dr. Howard A. Kelly, of Philadelphia; "High Amputation of the Uterus for Cancer," by Dr. Thaddeus A. Reamy, of Cincinnati; "The Technique of Vaginal Hysterectomy," by Dr. E. C. Dudley, of Chicago; "A Case of Rupture of the Uterus in Labor at Term—the Child born alive, the Mother subsequently having a full-term Child in Normal Labor," by Dr. C. M. Green, of Boston; the President's Address, by Dr. Robert Battey, of Rome, Ga.; "The Ætiology, Pathology, and Treatment of Antelexion of the Uterus," by Dr. T. Gaillard Thomas, of New York; "Some Cases of Nerve Prostration in which the Remote Effects of Anæsthesia by Ether were bad," by Dr. William Goodell, of Philadelphia; "Cystocolpocele complicating Labor and Pregnancy—a supplemental contribution," by Dr. Samuel C. Busey, of Washington; "Adenoma of the Fundus Uteri," by Dr. James R. Chadwick, of Boston; "A Case of Extra-uterine Pregnancy," by Dr. B. F. Baer, of Philadelphia; "On the Treatment of Extra-uterine Pregnancy," by Dr. Joseph E. Janvrin, of New York; "On the Treatment of Pelvic Abscess," by Dr. R. Stansbury Sutton, of Pittsburgh; "A Case of Subinvolution cured by the Removal of the Appendages," by Dr. Howard A. Kelly, of Philadelphia; "Some Points learned from an Experience of Thirty-four Ovarian Operations with but one Death," by Dr. Joseph Taber Johnson, of Washington; and "The Value of the Operation for Shortening the Round Ligaments, based on an Experience of Twenty-one cases," and "Laprotomy for Reduction of Inverted Uterus," by Dr. Paul F. Mundé, of New York.

---

THE AMERICAN  
JOURNAL OF OBSTETRICS  
AND  
DISEASES OF WOMEN AND CHILDREN.

---

VOL. XXI.      AUGUST, 1888.      No. 8.

---

ORIGINAL COMMUNICATIONS.

---

OBSERVATIONS ON CHILD-BEARING COMPLICATED BY  
ORGANIC DISEASE OF THE HEART.<sup>1</sup>

---

BY  
HENRY D. FRY, M.D.,  
Washington, D. C.

---

I BEG to introduce this subject to your consideration by narrating the history of a case of labor complicated by maternal heart disease.

The report of the case is as follows :

On June 12th, 1880, I was called to assist Dr. W. W. Johnston to deliver Mrs. B., a primipara, 26 years of age. Urgent dyspnea, accompanied by cough and profuse frothy expectoration, had unexpectedly developed during the expulsive pains of the second stage.

The expression of the patient denoted great anxiety, the *alae nasi* were dilated, the face was pale and the forehead wet with sweat, the lips were bluish, the respirations hurried and gasping, and the heart was acting tumultuously.

Percussion note was dull over both lungs, and auscultation revealed fine râles diffused over corresponding surfaces.

Dr. Johnston applied forceps to the head and rapidly terminated the labor. No immediate relief followed. The dyspnea

<sup>1</sup> Read before the Washington Obstetrical and Gynecological Society February 17th, 1888.

was of the same distressing character, the cough was incessant, and the expectoration of abundant frothy mucus was tinged with blood. Dry cups and sinapisms were applied and stimulants freely administered. After several hours had been passed in this critical condition, she gradually improved, and finally made a good convalescence.

The infant was delicate, refused the breast, and died when fifteen days old.

Thus briefly described, I was brought face to face with an emergency of the lying-in room I felt unprepared to battle, and my interest in the subject, so rudely awakened, has been increased, not only by the occurrence of subsequent pregnancies in the same patient, but by having met with other cases in whom organic cardiac disease complicated labor.

This interest led me to study the subject in its various aspects, and I have found no inconsiderable amount of literature relating to the question, which is, however, in great part scattered through medical journals. Macdonald, Spiegelberg, Porak, and Peter have made their names prominent by what they have written on this subject, and little new material has been added to the large stock contributed by them.

My object at present is merely to direct attention to the importance of the recognition of cardiac lesions in pregnant and parturient women and to discuss a few clinical points brought out in the report of my cases.

Macdonald, in the preface to his work,<sup>1</sup> written in 1878, states that the subject has attracted its share of attention on the continent, but has failed to secure the study commensurate with its importance in Great Britain. On this account he dealt with the question in such a manner as to remedy the deficiency.

Speaking of the importance of examining women and ascertaining the condition of their organs, he says: "As every woman has not only a uterus and ovaries, but also a liver, heart, lungs, kidneys, etc., it is, I hold, the ~~first~~ duty of every obstetrician to make sure that he is a physician in the first instance, and an obstetrician only in the second place. Unless he does so, he can have only an extremely inadequate idea of the scope and importance of his department of the medical science and art; and he is, at the same time, certain to allow his position in practice to degenerate into the cultivation of

<sup>1</sup> "Bearings of Chronic Disease of the Heart upon Pregnancy, Parturition, and Childbed." London, 1878.

what at best is only an outpost of applied surgery." He explains the neglect of this subject in part by the cramping effects of a too rigid specialism which tends to concentrate the attention of the obstetric practitioner exclusively upon matters purely obstetrical and gynecological.

In this country, where all physicians are obstetricians, and few obstetricians are not also practising physicians, the "cramping effects of a too rigid specialism" are less to blame.

Because pregnancy, as a rule, terminates favorably, little attention is bestowed upon its supervision. As an excuse for inaction some take the ground that child-bearing is merely the performance of a physiological process, and as long as everything goes well on the surface it requires no more attention than do the processes of digestion, of defecation, or of urination.

Obstetrical prophylaxis will remain incomplete until the subject of preparatory treatment be more advanced. The first step in this advance is to recognize the co-existence of pregnancy and organic diseases. Not only must we strive to recognize the presence of disease, but we must study the effect of these diseases upon pregnancy and labor, and, on the other hand, the effects of pregnancy and labor upon these diseases.

Confining ourselves to the affection under consideration, let us refer to our recent text-books on midwifery for the purpose of ascertaining how they deal with the question. Lusk<sup>1</sup> devotes about one page and a half to the subject of cardiac diseases complicating pregnancy. Mention is made of the evil consequences of myocarditis and of acute and chronic endocarditis when occurring at such times. The altered conditions of the blood, the existence of increased arterial tension, and the symptoms of aortic and mitral affections are referred to. Treatment is dismissed with this sentence: "The indications for medicinal treatment are the same as for cardiac diseases uncomplicated by pregnancy," and *no advice whatever is given regarding the management of parturition when complicated by this lesion.*

Although the statement concerning medicinal treatment is undoubtedly correct, yet certain modifying circumstances should be kept in view which make that treatment more imperative. We must bear in mind the additional tax imposed by the in-

<sup>1</sup> "Science and Art of Midwifery," New York, Appleton & Co., 1884, pp. 256, 257.

creased quantity of blood to circulate, and by the increased area of circulation added by the development of the utero-placental circulation and its accessories. We must try to limit the physiological impoverishment of the blood, for poor blood to a diseased heart is starvation to an overworked organ. We must remember also that now a physiological hypertrophy of the organ is to be grafted upon a pre-existing pathological hypertrophy, and this conservative process must be *encouraged* as much as the preceding physiological change must be *discouraged*.

Hence, a pernicious influence is undoubtedly exerted by pregnancy upon a heart already crippled by valvular disease, and the object of the treatment is not only to counteract it, but also to prepare the organ for the strain it must undergo when labor begins.

Likewise, let it be borne in mind that pregnancy under these conditions is liable to accidents that demand special prophylactic treatment. Metrorrhagia, abortion, and premature labor occur in too many instances to be considered accidental complications.

Finally, when labor is completed, not only must we consider the altered blood tension and the various excrementitious matters circulating in the fluid, but involution of the heart must now take place, and this process is accompanied by fatty degenerative changes. To hold those changes in check and leave an organ capable of performing its important function is the next demand upon our resources. Playfair<sup>1</sup> makes brief reference to the subject in the chapter on Diseases of Pregnancy, but draws his conclusions chiefly from the work of Macdonald. Speaking of the mortality given by this observer, he says: "It shows the serious anxiety which the occurrence of pregnancy in a patient suffering from chronic heart disease must cause." Yet this author does not give any advice to his readers as to the best method of conducting such labors with a view to lessening the death rate. When pregnancy has occurred, "all," he says, "that can be done is, to enjoin the careful regulation of the life of the patient, so as to avoid exposure to cold, and all forms of severe exertion."

Leishman is silent. Beyond the recognition of the physi-

<sup>1</sup> "Science and Practice of Midwifery," Phila., H. C. Lea, 1880, p. 213.

logical changes which take place in the heart and blood, he passes by the subject of cardiac disorder.

Glison [*"Text-Book of Modern Midwifery,"* 1881] merely refers to the possibility of sudden death resulting from the straining efforts of parturition, the accident being due to rupture of a heart weakened by fatty degeneration.

Cazeaux, although he treats so fully of the pathology of pregnancy, omits entirely the consideration of organic heart disease. Under the head "of certain diseases that may complicate labor," he, however, gives expression to the following pertinent language:<sup>1</sup> "Chronic diseases of the heart, whether consisting in an hypertrophy of the organ, or simply in alteration of the valves or contraction of the orifices, are but too often, as M. Aran has recently demonstrated, the cause of sudden death, not to call for some special attention during labor. It would seem to me very imprudent to allow the expulsive stage to continue too long in such cases, and I should think it right to terminate the labor artificially as soon as possible." It is a disappointment that this able author should dismiss the subject, the importance of which he realizes, with only one sentence as a guide for treatment.

Barnes [*"Obstetric Medicine and Surgery,"* Lea Bros. & Co., 1885] refers to heart affections during pregnancy and labor, but fails to offer any advice concerning the obstetrical management of these cases.

Parvin [*"Science and Art of Obstetrics,"* Lea Bros. & Co., Phila., 1886], with the exception of Charpentier, deals with the subject of diseases of the heart more satisfactorily than any of the other recent authors.

To Charpentier's work, however [*"A Practical Treatise on Obstetrics,"* Wm. Wood & Co., 1887], is due the credit of giving a fuller exposition of the subject than any of those textbooks mentioned. He devotes six pages of the second volume, on the Pathology of Pregnancy, to Disturbances of the Circulation. He considers the influence of pregnancy on diseases of the heart, the influence of cardiac diseases on pregnancy, the prognosis and treatment—medical and obstetrical.

I have inserted these references to establish the truth of the assertion made by Macdonald, that the subject of cardiac dis-

<sup>1</sup> Cazeaux, *"Theory and Practice of Obstetrics,"* P. Blakiston, Son & Co., Phila., 1884, p. 826.



eases occurring during the child-bearing period has failed to secure the study commensurate with its importance. This is as true now as when he wrote the preface to his book in 1878, although some obstetric authors have recognized the value of his investigations, and referred to them.

But one of two excuses can justify this indifference.

Either there does not exist any special indication for the treatment of this complication, or it is of such rare occurrence that cases of the kind must be classed among the curiosities of one's obstetrical experience.

The special indications for treatment have already been mentioned, and if general principles are to guide us in the conduct of pregnancy and labor under these trying circumstances, why not take the same broad view of many other more rare diseases which cannot lay claim to greater demand for a special line of treatment?

The latter supposition, in regard to rarity of the complication, is contradicted by the number of cases reported in our medical journals, and, doubtless, many of the cases of "sudden death in labor," "unexpected death," etc., etc., are the result of unsuspected cardiac disease.

Before taking up other points for consideration, we will resume the history of the case which is introductory to the paper and continue the report of the subsequent pregnancies and labors.

The history of the patient previous to the confinement already reported was good, and no hereditary diseases existed in her family. She had never suffered from rheumatism. The first symptoms of any cardiac trouble, which was manifested by palpitation and dyspnea, appeared in the fall of 1878, when suppression of the menses followed exposure to cold. In March, 1879, she had an attack of diphtheria and suffered, four or five days of that time, with cough, dyspnea, and excited action of the heart. The following July she was married.

*Second Labor.*—Mrs. B. was delivered by Dr. Johnston of a second infant, September 1st, 1881. During this pregnancy she had had a return of palpitation and dyspnea, but was unusually free from edema of the lower limbs. The timely use of the forceps had prevented the recurrence of alarming symptoms, although some dyspnea and cough developed. She flooded considerably after the birth of the baby, but recovered without further trouble. This infant was nursed two months and is living and healthy.

*Third Labor.*—During the latter part of July, 1884, while Dr.

Johnston was absent in Europe, Mrs. B. engaged my services for her third confinement. At that time she was about seven months and a half pregnant. Examination revealed the apex beat of the heart displaced downwards and to the left. A loud presystolic murmur was heard diffused over the left side. Any exertion produced coughing, and her breathing became short and labored if she walked rapidly, or mounted a flight of stairs. Examinations of the urine, repeated at regular intervals of two weeks, failed to detect any abnormal condition, and the quantity passed in twenty-four hours was satisfactory.

A liberal and proper diet was directed, the bowels were kept in order, and digitalis was given daily. Proper advice was also given in regard to exercise (or rather the restriction of it), to clothing, etc. Unfortunately the patient's bedroom was located in a third story, and every trip up-stairs was a severe tax upon her heart. Labor pains set in during the night of September 9th, but they did not become strong until morning. I saw her at 5:30 A.M., September 10th. The os was soft, dilatable, and dilated as large as the rim of a tea-cup; the head presented and was well down in the pelvic cavity. Pulse was 112, temperature 98.4°. She was troubled with a constant, tickling cough. At 7 o'clock the cough became very annoying, and some oppression of the breathing was noticeable. As this increased she desired to be raised to a semi-sitting position. The cervix being fully dilated, the membranes were ruptured artificially, and she was placed in position for the application of forceps. Her head and body were well elevated on account of orthopnea. Being cautioned against making any voluntary expulsive efforts, the instrument was applied and delivery effected at once. The placenta came away without trouble and a full dose of ergot secured firm contraction of the uterus.

Digitalis and whiskey had been administered repeatedly during the labor. After having been cleansed and fixed in bed, she expressed the wish to lie upon her right side. The breathing began to improve as soon as delivery was completed, and in a short time it became quiet. A few hours afterwards she had a free discharge of sero-sanguineous fluid from her vagina. Ergot and digitalis were given three times a day during the puerperium, and she made a good recovery.

*Fourth Labor.*—Mrs. B. became pregnant for the fourth time in the spring of 1885. The advisability of the production of abortion was seriously considered, but it was finally decided that gestation should not be interfered with. I urgently advised that the family should remove to a small dwelling house in which the bedroom could be reached by an easy flight of stairs. This was acted upon, and the patient passed through the period of pregnancy with scarcely a heart symptom, although she attended regularly to her household duties. The same treatment and attention were given during this pregnancy.

Labor pains commenced at 3 A.M., November 17th, 1885, and

when I saw her in the afternoon the contractions were strong. The patient was nervous and expressed her dread of the necessity for the use of instruments. She was assured that they would not be employed so long as her breathing was easy, and the heart's action was good. The importance of avoiding any voluntary expulsive efforts was explained. The os dilated nicely: the head was engaged in the pelvic cavity and presented in the first position. The patient's head and shoulders were elevated.

At 5 P.M. the os had fully dilated, and artificial rupture of the membranes gave passage to an excessive flow of amniotic fluid. The patient was bright and cheerful, respirations easy, pulse regular and strong.

At 6 P.M. the head began to distend the perineum. Breathing was now a trifle embarrassed at intervals, but there was no cough. Whiskey and digitalis were repeatedly administered. The inhalation of ether was employed with benefit, the pulse becoming stronger under its influence. The patient could not restrain making some expulsive effort during the last few pains which gave birth to a well-developed female. The placenta was soon expelled and uterus contracted firmly.

A sensation of oppression in the chest and some irregularity of the heart's action were the only noticeable symptoms during the days immediately succeeding child-birth.

Digitalis, fl. ext. ergot, and whiskey were given three times a day for several successive weeks. She recovered and sat up on the tenth day.<sup>1</sup>

This patient now enjoys fair health and is not troubled with any heart symptoms, although the cardiac murmur is distinctly audible over the mitral area.

Her children are healthy.

The third infant nursed only two months: the second and fourth were kept at the breast during the normal period of lactation.

Having met with another case of organic cardiac disease complicating labor, the clinical features of which are dissimilar from the preceding, I will mention it briefly in order to complete the history of this subject by contrasting the symptoms of mitral and aortic affections.

CASE.—*Aortic Stenosis, Albuminuria, Pneumonia.*—Mrs. F., Ilpara, was, when I saw her in March, 1885, in the ninth month of pregnancy. Her abdomen was unusually large, her face and hands were edematous, she suffered from headache, and at night

<sup>1</sup> Since the above was written, Mrs. B— has become pregnant again. She is now in the sixth month of utero-gestation, and her breathing is very much embarrassed. The same course of treatment is being pursued, except that I have ordered strophanthus in place of digitalis.

when lying in bed complained of shortness of breath. The urine contained five per cent of albumin and some hyaline casts were discovered. Her symptoms quickly yielded to hot baths, one or two sweats with pilocarpine, and purgative doses of elaterium. On the evening of the 4th of March, however, she imprudently went out to witness the display of fireworks during the inaugural celebration. Her symptoms returned, and when I examined the urine on the 9th of the month, it contained sixteen per cent of albumin. The quantity passed during twenty-four hours amounted to thirty-two ounces. She was placed upon skimmed-milk diet, the bowels kept open with elaterium, and baths directed with water at 115°. Chloral and digitalis ordered at night.

March 10th, urine contained twenty per cent albumin. On the 11th, thirty-three per cent. As her condition was steadily growing worse, I became satisfied that the induction of labor offered the best chance of averting serious trouble. On paying my visit that morning, I was gratified to find her having slight labor pains.

March 12th, she passed a restless night, being troubled with choking sensations, and a constant, dry, laryngeal cough. Labor pains had kept up, but were slight. The os was dilated the size of a half-dollar, the soft parts were in good condition, and the head presented in L. O. A.

Observing that her face became intensely congested during each uterine contraction, I advised her to restrain from making voluntary expulsive efforts as much as possible. At the time I gave this advice I did not appreciate its importance. She complained of feeling nervous and was troubled with a distressing cough. At 2:15 P.M., the os being well dilated, artificial rupture of the membranes gave passage to an excessive discharge of amniotic fluid. She expressed great relief, and her breathing became easier. Strong expulsive pains terminated labor at 3 P.M. Placenta expressed and one drachm fl. ext. ergot administered. Pulse 58 and slightly irregular, temperature normal. Slight flooding led to an examination of the uterus, and it was found to be enlarged. The binder was removed and re-applied after some clots had been pressed from the uterine cavity. Another drachm of ergot was given, and the flow became normal in an hour and a half.

March 13th. Pulse 98, temperature normal. She had a constant cough; her face and eyelids were puffed, and only 12 oz. of urine had been passed in twenty-four hours. Hot poultices were applied over the kidneys. At 7 P.M., 5 oz. of urine had been passed. Catheter was introduced and one and a half ounces urine drawn off, which contained only two per cent of albumin.

March 14th. 9 A.M. Almost worn out by incessant dry cough which had prevented sleep. Her face was swelled, and choking sensations were produced by edematous swelling of the tongue. Bowels freely moved. Pulse 140, temperature 101°.

The rapid pulse associated with cough aroused my suspicions of cardiac trouble. Examination revealed an aortic direct murmur which an unsatisfactory auscultation before labor had failed to discover. Fifteen drops of tincture of digitalis were ordered, to be repeated in ten-drop doses every three hours for a while.

At 1 P.M., the cough had become greatly relieved, the first dose of digitalis having improved it. The urine dribbled away involuntarily, and judging it by the number of cloths saturated, the secretion was abundant.

7 P.M. Pulse 112, temperature 102°. Hypodermic injection of morphia given at this hour, and repeated at 2 o'clock in the night, caused the first good sleep since her labor. The digitalis now directed to be given three times daily in fifteen-drop doses.

March 15th. 10:30 A.M. Pulse 130, temperature 102°. Oppression in the chest and labored breathing returned as the effect of the hypodermic injection wore off. Compelled to lie upon right side altogether, any attempt at turning upon her back caused increased difficulty in breathing. Right lower limb cramped and painful from pressure. Urine still dribbles freely. Secretion of milk free, but able to nurse infant on one breast only. Hypodermic injections had to be repeated as occasion required. Treatment consisted of milk, brandy, quinine, and digitalis. 5 P.M. Pulse 120, temperature 101.2°. At 11 P.M. pulse and temperature about same as when last taken, respiration 40. Repeated examinations of the chest had failed to detect any signs of pneumonia until then. Evidence of solidification was apparent in lower half of right lung.

March 16th. 7:30 A.M. Was called by telephone message to see patient on account of blueness of her lips. After attacks of coughing this cyanotic condition came on. She had passed a bad night and coughed more frequently. The dyspnea was distressing. Pulse 106, temperature 100°, respiration 30. Hot flaxseed meal poultices were applied to the chest. 12:30 P.M. Nausea has prevented her from taking nourishment and stimulants. Ordered Valentine's beef juice in iced water, iced champagne, and nourishing and stimulating enemata.

5 P.M. Expectoration of rusty-colored sputa. The right lung was solid as high as spine of scapula. 10 P.M., pulse 98, temperature 100°, respiration 38. Very tired and sore from being compelled to lie upon the one side. I remained with the patient all night, and, at eleven o'clock, gave a hypodermic injection of one-eighth of a grain of morphia with eight minims of tinct. digitalis. These injections, which had afforded so much relief, had been discontinued when solidification of lung tissue became apparent. The diminished quantity of morphia mentioned had a good effect, and she slept until 2 A.M., being disturbed at times by her cough. From that time until morning she took short naps.

March 17th. 7 A.M. Pulse 110, temperature 99.8°, respiration 34. Takes milk and whiskey by mouth again. Signs

of resolution detected in the affected lung. From this date the patient gradually improved. On March 18th, and again on the 19th, she twisted herself into a semi-prone position and was unable, both times, to get back on her right side until after she had been given a hypodermic injection. On latter date, she was able, for the first time since her confinement, to turn on her back long enough to use the bed-pan. Not until March 26th, fourteen days after her labor, could she remain for any length of time upon her left side or her back.

*Fourth labor.* I delivered Mrs. F. again on the 1st of January, 1887. Irregular pains preceded her labor for one week. December 31st, the contractions became stronger, the os began to dilate, head presented R. O. A. The pains continued until 5 p.m., when they subsided, and she was seized with severe headache, dimness of vision, and gastralgia. The urine had contained a small quantity of albumin during pregnancy. I saw her at 8 p.m., and administered a hypodermatic injection of morphia, one-half a grain, with one-fourth of a grain pilocarpine. She sweated profusely, spat seven cupfuls of saliva, and vomited some gastrointestinal mucus. Her uremic symptoms were relieved. Pains continued during the night, and next morning, January 1st, labor progressed satisfactorily. At 2 p.m., the membranes were ruptured artificially and a large quantity of amniotic fluid escaped. The infant was born at 2:45. The placenta came away promptly and the uterus contracted firmly. A slight cough was the only unusual symptom at this time.

January 2d. Face swelled and eyelids puffed, cough harsh and laryngeal. Digitalis given as before. p.m., cough incessant and harsh. Hypodermatic injection of morphia. Urine passed freely and contained two per cent albumin. Comfortable only when lying upon her right side.

Monday, 3d. Cough easier during night, but prevented from sleeping by the baby crying. Some dyspnea, swelling of face and neck reduced. At 4 p.m., she turned upon her back to use bed-pan and was seized with an attack of dyspnea that caused her to seek relief by quickly moving to side position. When I saw her at 5 p.m., she was much distressed for breath: her right limb ached, but she dared not assume any other position.

Tuesday, 4th. Her breathing was better, but she could not change her position. Urinates by pressing a small baby's chamber against the vulva. From this date the patient gradually improved. Lying upon her back or left side brought on attacks of coughing, but dyspnea was no longer a troublesome symptom. January 18th, Dr. H. L. E. Johnson examined her urine and reported albumin present, one-third by volume, a few hyaline and a number of fatty casts.

Mrs. F. has suffered from oppression at her chest and attacks of weakness for many years—as long as she can remember. Fatigue, fright, or anxiety produced pain in her heart and a feeling of depression from which she was slow to recover.



One year before her first child was born she had an attack of typhoid fever, and from that time suffered an aggravation of her heart symptoms.

During the last part of each pregnancy she was troubled with a croupy cough, and with oppression and breathlessness after exertion.

Succeeding labor the cough increased, and she was compelled for some days afterwards to lie upon her right side.

*Fifth labor.* Mrs. F.'s last pregnancy was terminated artificially on June 18th, 1888.

She progressed satisfactorily, and the urine only contained a trace of albumin until the thirty-sixth week of utero-gestation. Loss of rest from inability to lie down preceded, for about one week, the appearance of an increased amount of albumin in the urine. From that time she became steadily worse—the amount of albumin reached one-third by volume, and uremic symptoms threatened serious trouble.

Labor was induced at the thirty-eighth week by passing an elastic bougie between the membranes and the uterus.

Contractions promptly came on, and she had a rapid labor. Her condition during the puerperium was better than after any of her previous labors. The cough was slight, and she could lie upon her back with comfort during the whole period. The infant weighed seven and one-half pounds, and is living and doing well.

The result in this case shows the advantage of inducing labor under similar circumstances. Not only were serious symptoms averted, but she passed through an exceptionally good lying-in.

*Remarks.*—The histories of the preceding cases develop an important fact which is in accord with the observation of others who have written on this subject, viz., that organic cardiac disease may exist, latent and unsuspected, in the mother, until the conditions which accompany pregnancy, labor, and the puerperium cause symptoms to arise, sometimes alarming and even fatal.

Not only do these conditions exert their injurious influence upon a diseased heart, but they will, at times, produce manifest disturbances of the circulation, even when the organ is free from organic valvular affection; and again, it has been observed that repeated child bearing alone is a cause of permanent organic disease of the organ. Charpentier says: ' "Physiological hypertrophy may persist and become permanent, increasing with each pregnancy, and culminate in true heart

<sup>1</sup> Ibid., p. 45.

affection." Again he states that, "degeneration of the myocardium and rupture of the heart has been observed especially during the puerperal state." Spiegelberg reports such a case of sudden death three days after labor.

Robert Barnes<sup>1</sup> has seen several cases of hypertrophy of the heart, apparently starting from gestation, and fatally soon after labor. They occurred in women apparently 40. He considers that such trouble is more likely to happen when the first pregnancy occurs late in life. Repeated pregnancies are also likely to produce weakened heart muscle, just as they do weakened uterine muscle.

In the spring of 1885, I was requested by a patient to take charge of a worthy colored woman who was expecting to be confined at an early day. This woman was 40 years old, and was carrying her tenth child. Her previous confinements had been under the supervision of a midwife, but for certain reasons, which will appear later, she wished to transfer the responsibilities to an M.D. I called to see her on May 10th, 1885, and found a moderately stout and well-developed mulatto woman. Her lower limbs were edematous as high as her knees, her pulse was 110, and very feeble and intermittent, the heart's impulse was weak, and a faint murmur audible with the first sound. An examination of her urine failed to detect albumin or casts.

I obtained the following history: She has always had good health; was married when 24, and became pregnant soon after. She has either been nursing or carrying a baby *in utero* ever since. Her menses have never occurred but once after each labor. She was troubled with a cough during each pregnancy, but at other times she attended to active household duties and suffered no inconveniences. Her first four labors were natural, and nothing unusual happened, except that her lochial discharge was profuse, and would return at any time during the post-partum month after slight exertion.

Her fifth labor was preceded by escape of amniotic fluid, labor pains were severe, and lasted eighteen hours. While the midwife was bandaging her she fainted, but does not know how long she remained unconscious.

After the sixth, seventh, eighth, and ninth confinements, while she did not actually lose consciousness, she came very near it—she could not so much as move her head without symptoms of threatening syncope. She was compelled to lie quietly upon her back, and after an hour or so the disagreeable sensation would pass off. Never sat up before the ninth day. All of the children except two are now alive. This tenth labor she dreaded more than any of the previous ones, because, feeling badly and being more swelled by edema, she feared the *sinking spells* that followed.

<sup>1</sup> *Ibid.*, p. 432.

On May 20th she suffered with irregular pains, and at 5 A.M., May 21st, she sent for me, because, as she supposed, "the waters had broken." When I arrived, she was lying in bed, and the pad upon which she rested was saturated with escaped fluid, although it consisted of four foldings of a quilt. The os was opened as large as a silver dollar, the head presented, and the membranes covering the os were not broken. Pain having ceased with the discharge, I left, with directions to be sent for when it returned. Since my first visit she had been taking digitalis daily, and complained of having felt dizzy and weak at times. She remained free from pain for nineteen hours. At 12:30 A.M., May 22d, labor set in, and an hour later she had another discharge of fluid *per vaginam*. At 2:30, the uterus being dilated, I ruptured the membranes, and the usual amount of liquor amnii escaped. Pulse 88, and slightly irregular; no dyspnea or cough. At 3 A.M. the infant was born, and but little voluntary expulsive effort had been made. Whiskey and digitalis were given during labor, and ergot at its completion. She recovered rapidly, and had none of the disagreeable sensations that had followed her five labors immediately preceding this one. The heart murmur disappeared entirely.

This patient sustained her record by becoming pregnant for the eleventh time, when her baby was eight months old. During the pregnancy she had slight attacks of syncope and some cough. Her labor was quickly over, and followed by slight fainting spells.

Here is a case of weak heart from overwork. During the past eighteen years of her life this woman has not been a single day without having to contribute to the sustenance of one infant, and much of the time to two, for often, while nursing one at the breast, she nurtured another in her uterus. The first evidence of overstrain came immediately after her fifth confinement, which was a hard and prolonged one. She suffered little inconvenience afterwards, except during the latter half of subsequent pregnancies she was troubled with a cough, and after the strain of each succeeding labor came the dreaded syncopal attack.

During the tenth and eleventh pregnancies, dyspnea, dizziness, etc., were present in aggravated type. I examined this patient a few days ago and found her heart sounds normal. While sitting quietly in a chair her pulse was 100 per minute, and weak but regular. She has suffered more than usual this winter with short breathing, which comes on after exertion. At night she is unable to lie upon her left side with comfort.

Exaggerated types of this class sometimes end fatally. Milne<sup>1</sup> says: "In addition to numerous attacks of syncope which yield to stimulants, cases are occasionally met with in which labor may have progressed naturally and terminated happily, and yet the female perish suddenly. Examinations have detected nothing but flaccidity of the heart and emptiness of its cavities, called examples of cardiac paralysis."

Meigs, in his work on obstetrics, published in 1849, reports several cases of pregnancy and labor accompanied by disturbed heart's action and respiration. No organic disease existed, and he attributed the symptoms to anemia. He was called in one case to take charge of a primipara, 22 years of age, in the sixth month of her pregnancy. The patient was referred to Prof. Meigs by a medical friend who declined to accept the responsibilities because the embarrassment of circulation and respiration was so great he feared she had serious cardiac disease. Edema was great, and any exertion produced serious symptoms. The progress of pregnancy was accompanied with an aggravation of all the symptoms. At different times, on attempting to move about, she had fallen insensible upon the floor. His patient could not lie down day or night. If she sat up supported by pillows, the oppression was so great she threw them away and supported herself against one of the foot-posts of the bedstead. Here she would remain for many days and nights.

When labor came on he delivered her with forceps. She afterwards enjoyed perfect health, and gave birth to several children without serious trouble. She had no disease of the heart.

In another case of similar character, which gave Prof. Meigs great anxiety, a convulsion occurred just as labor was terminated. She recovered, and he says, "her vast dilated heart, which seemed to me as large as a quart measure, regained its normal generical magnitude and force, so that a few years afterwards she ran before me as light as a girl, to the fourth story of the Washington Hotel, without drawing a long breath on reaching the top. Her heart, I feel perfectly assured, was sound and well again." Cases have also been observed in

<sup>1</sup>"Principles and Practice of Midwifery," 2d Edit. Birmingham & Co., 1884, p. 287.

which pregnancy produced serious cardiac symptoms of a reflex nature.

Dr. McVeagh<sup>1</sup> reported a case in which the symptoms were so alarming that premature labor was induced for the purpose of saving the mother's life. The patient had orthopnea, attacks of syncope, and an irregular heart beat that was so rapid it could not be counted. She had neither organic heart nor kidney disease, and recovered.

I will not discuss the symptomatology of organic heart disease occurring during child-bearing life and complicating its processes, and yet I am unwilling to pass the subject by without referring briefly to one or two clinical points emphasized by the preceding cases. It is a well recognized fact that among the effects produced by organic cardiac disease upon pregnancy are uterine hemorrhage, abortion, and premature labor. It is also noted that flooding is liable to occur after delivery, and that the mortality is high among children born under these circumstances. Only three of the six children, born of the two mothers whose histories have been reported, are alive to-day. One died a few weeks after birth, and two succumbed to gastrointestinal disease contracted during the hot seasons immediately succeeding their births.

Case I. flooded considerably after her second confinement. After the third she had a profuse flow, which appeared like a mixture of blood and serum. The other case had a hemorrhage which, though not profuse, I failed to control for an hour and a half. I employed ergot, removed the bandage, and expressed some clots from the cavity of the uterus, gave a hot vaginal injection, and used ice to the abdomen.

My attention was attracted to another condition common to these cases which, although it may have been recognized, I find no mention of in the writings I have consulted. I refer to the presence of a large quantity of amniotic fluid. After the fourth labor of the first case, it is noted that there was excessive flow of amniotic fluid. After the first labor which I report of the second case, it is also stated that there followed the artificial rupture of the membranes, an excessive flow of water, with great relief to the mother. Her subsequent labor was

<sup>1</sup> J. F. McVeagh, M.D., Dublin Quarterly Journal of Med. Science, 1867, xliv., p. 71.

also accompanied with the discharge of a large quantity of water.

Parvin, in his work on "Obstetrics," reports a case of labor complicated with organic heart disease, and he refers to the fact that the woman discharged an excessive amount of amniotic fluid. Macdonald also notes in two of his cases (XI. and XII., mitral stenosis) the occurrence of an excessive flow. This symptom is probably due to repletion of the venous system and disturbance of placental circulation. To the repletion of the venous system, acting after labor, may be attributed the discharge of sero-sanguineous fluid which occurred after the third labor of first case.

Likewise, I would mention in this connection the profuse discharge of fluid which preceded labor in the case of weak heart without organic valvular disease. Hydrorrhea evidently resulted from a similar cause.

*Cough.*—Cough existed in all three cases. During the pregnancy of the first (mitral stenosis), it only came on after exertion, and was tickling in character, like that produced by irritation of the lower part of the pharynx. During labor it was her danger signal, and preceded dyspnea, oppression, and orthopnea. The cough of the second case (aortic stenosis) was very different in character—it was harsh, laryngeal, and sounded like the result of reflex action. It was accompanied by oppression and choking sensations, not by orthopnea. This patient felt very nervous during her labors, but did not express a wish to be propped up. She did not complain of dyspnea in the same sense that the other (mitral) case did; it was more a choking sensation which accompanied the oppression.

The third case (weak heart) was troubled comparatively little with any of the preceding symptoms. She passed through the strain of labor more comfortably, but when over, attacks of syncope occurred until her disturbed circulation was improved. No doubt the symptoms presented after first labor of the second case were, to some extent, influenced by the kidney complication. In fact, I was led to attribute all the symptoms to it until the second day after labor, when accelerated heart action directed my attention to that organ. Also, much of the later distress and the critical condition of the patient were due to pneumonia.

*Decubitus.*—All three patients expressed a desire, after labor,



to assume a certain position. Cases I. and II. favored the right side; Case III. the dorsal. This was particularly a prominent feature of the symptomatology of Case II. It is hard to picture to one's mind the distress she experienced from being compelled to remain upon her right side. Her right side and limb ached, she was unable to nurse her baby on the corresponding breast, and urination and defecation were performed in this forced position. It was eight days before she could lie upon her back long enough to use the bed-pan, and two weeks passed before she could remain upon her left side or back with any comfort. On two occasions when I called, I found that she had slipped into a semi-prone position, and was unable to extricate herself from this cramped position until after I had administered a subcutaneous injection of morphia.

Doubtless this symptom was aggravated by the pneumonia, but it existed in a severe form, but less lengthily in duration, after her next labor.

Although these observations have been drawn from three cases only, they include the histories of eight labors, and more consideration is due their value from the fact that the clinical picture presented by each patient was faithfully reproduced in the succeeding pregnancies and labors. There was no blending of the shadows, and each stood out as boldly from the other as was the difference of pathological conditions.

I will not attempt to formulate a line of treatment for organic heart disease occurring during this period of woman's existence, as no pretensions are made to offer a paper covering the wide field of which the subject treats.

My purpose, originally, was to confine myself to *observations* as indicated by the title, but I have already introduced so much extraneous matter as to exceed the limit intended.

In the etiology of these cases, it is a noticeable fact that rheumatism is not mentioned as a factor. Contrary to the statement of Parvin, it would appear, from reported cases, that but a small proportion arises from this cause. Out of 15 cases of organic valvular affections complicating child-bearing in which this question was raised, I find that in 9 it was stated that no history of rheumatism preceded the cardiac trouble. In 6 there had been attacks of the disease; in some mild, and in a few severe. Examining the 15 cases with reference to the valve affected, the mitral was diseased 12 times, and 4 showed

a history of rheumatism. In only 3 cases of aortic disease is any mention of this point made, and 2 of the number had suffered from rheumatic disease.

The preponderance of the number of cases of mitral trouble observed is due to the fact that the great majority of heart complications arising at this period are affections of that valve. The work of Macdonald is based upon the histories of 29 cases, 13 of which he watched himself more or less closely : 22 of the 29 were diseases of the mitral valve, 14 mitral stenosis, and 8 insufficiency.

I would suggest the probability that the origin of Case I., which I report, was the attack of diphtheria in the spring of 1879, at which time the patient had suffered from cough, rapid pulse, and dyspnea. Such a supposition would offer an explanation for the alarming nature of the symptoms which occurred during her first labor. The heart affection being comparatively recent, compensatory hypertrophy had not fully adjusted the circulation before the extra strain of pregnancy and labor was added. In Case II., the heart lesion was evidently old, and may have been congenital.

The etiology of the case of weak heart is evident.

The mortality of child-bed complicated by maternal heart disease is so high that one cannot help feeling great anxiety when called upon to manage such cases. Of the cases collected by Macdonald, 60% ended fatally, and 9 out of 14 of the women affected with mitral stenosis died, a mortality of 64.4% ; 3 were primiparæ, and all died ; 4 were IIparæ, and 2 died ; 2 VIparæ, and 1 died ; the others were IIIparæ, IVparæ, VIIparæ, XIparæ, and XIIparæ, and of them 3 died.

Danger does not cease with the termination of labor. While some cases have died suddenly during the process or immediately after its completion, others have ended fatally only after days, weeks, and even months had passed. According to the observations of Porak regarding the time of death in 31 fatal cases, he states that 5 died before delivery, 2 during labor, and 25 afterwards.

In the proper management of these cases during pregnancy, I believe the most important consideration is *rest*. This may vary according to the nature of the case. In one it may mean the allowance of moderate out-of-door exercise in addition to household duties ; in another, limited in-door exercise only ;

and in a third, especially in cases of recent heart trouble, it may mean the restriction of all exercise, and even, in the worst cases, absolute recumbency. No in-door exertion is so deleterious as stair climbing, and for that reason this class of patients should have their sleeping apartments so arranged as to do away with it as completely as possible.

It will be noticed that three of the four labors of Case I. were terminated by forceps. In the fourth labor only did the absence of serious symptoms warrant allowing it to progress to a natural termination. I consider it significant that it was during the beginning of the fourth pregnancy that the family of the patient, at my earnest solicitation, removed from the house in which they had been living to a smaller one, where one short flight of stairs led from the lower floor to the sleeping room. The mother was, in consequence, saved numerous trips daily up three flights of stairs which, in former pregnancies, she realized taxed her heart more than anything she did.

There is one precaution to be observed in pregnancy under these circumstances, the importance of which is my excuse for referring to it, viz., the avoidance of exposure to cold. Any pulmonary complication, even a slight bronchitis, contracted under these circumstances, may turn the scales, and lead to a fatal termination of pregnancy.

The special indications for treatment have already been mentioned, and I will confine myself here, as I did when studying the symptomatology, to a consideration of some points bearing upon the management of the cases reported. When labor sets in, every effort must be made to relieve the heart of the extra strain incident to that process. This is accomplished by :

1st. Prohibiting voluntary muscular efforts on the part of the mother.

2d. The *vis a fronte* of the forceps should replace the *vis a tergo* of muscular action ; and

3d. Anesthesia.

To lessen the expulsive efforts of the woman, we must encourage her to exert her will power to restrain from giving way to the natural impulses to aid nature by voluntary exertion. With the same end in view, we endeavor to retain the bag of waters intact until the parts are fully prepared for the passage of the fetus. In four of the labors I have reported, the forceps were not employed. The membranes were ruptured ar-

tificially in each, but not until the os had fully dilated. The duration of the second stage was one and one-half hours, three quarter hour, three-quarter hour, and one-half hour, respectively, making the average duration of the expulsive stage less than one hour.

Little need be said regarding the advisability of using forceps to supplant the muscular force of the mother. I will dismiss the subject by quoting the language of Prof. Meigs,<sup>1</sup> which is as true as when written nearly fifty years ago.

"He should take all possible precautions to avoid undue excitement of the nervous and vascular systems, forbidding the bystanders to exhort her to bear down, and frequently advising her to bear her pains patiently, waiting for their dilating effects, and so continue until the presenting part, having come within reach of the hand or the forceps, may be gently drawn away almost without any spontaneous assistance of her own. If there can be found a case, in which the power of the forceps can be deemed more beneficial than in another case, it is that in which a parturient woman, with an immensely dilated heart, disparted valve, with cellular infiltration, and serous effusions within the chest, has barely power to live, but not enough both to live and to expel the child from the womb."

I am fully impressed with the truth of this statement, and had not the second stage of labor been so quickly terminated in the four instances mentioned above, I should have resorted to instrumental delivery without delay.

In the use of anesthetics under these circumstances, my experience is limited to the one labor reported. Ether was administered, at first very cautiously, but as the pulse improved under its use, I became encouraged to persist in its employment. The pulse was stronger and more regular under its influence, and I believe it had a beneficial effect.

Chloroform has been advised, and is used by some, under the same conditions. Macdonald, speaking of the indications for its use, says it exerts a sedative influence upon the heart and removes the desire on the part of the woman to make voluntary expulsive effort. This argument in its favor would carry more weight did not a safer agent exist in ether. Considering the physiological action of the two drugs, I think, on this conti-

<sup>1</sup> Ibid., p. 420.

ment at least, few will hesitate to accept ether as the safer anesthetic, although under other conditions preference may be given to chloroform as the more satisfactory agent to employ in obstetric practice.

---

CASE OF UTERINE FIBROID TREATED BY APOSTOLI'S  
METHOD. ENUCLEATION OF THE TUMOR.

---

BY

MARY PUTNAM JACOBI, M.D.,  
New York.

---

Miss A. B., æt. 36, had suffered from a uterine fibroid for at least six years, and had been under my observation for two or three. During one period of six months, about two years before beginning the electrical treatment, the patient had been treated steadily by hypodermic injections of ergotin, and these had in a measure controlled the profuse and painful menorrhagia to which she had been subject.

Before introducing this ergotin treatment, the patient had been etherized, and the uterine cavity thoroughly explored for a polypus, but with entirely negative results. The physical exploration, as well as rational signs, indicated a submucous intramural fibroid, not, at this time, projecting much toward the peritoneal cavity.

The year following the winter of ergotin hypodermics little had been done, though the occasional administration of digitalis seemed very beneficial.

In October, 1887, the patient had a violent hemorrhage at the menstrual period, losing large quantities of blood so rapidly that she fainted. Immediately after this the uterine cavity was found to measure  $4\frac{1}{2}$  inches, and the uterine wall was felt to project posteriorly to the left and downwards.

The first electrical application was made Nov. 28th, 1887, and repeated Dec. 5th, 19th, 25th, and 30th. At this time the abdominal clay electrode had not been properly arranged, and the patient could only bear a current strength of 60 milliamperes (measured by Waite and Bartlett's galvanometer). The positive pole—a platinum curved rod—was inserted within the uterus. The current was applied ten minutes. It was generated by the constant Leclanché elements of Waite and Bartlett's cabinet battery. After the application the patient was kept lying down for two hours, and then went home in a carriage.

On December 31st, the day following the last application, menstrual bleeding began somewhat prematurely. On January

1st, a large and thick membrane—the eschar formed by the electrical cauterization—was passed from the uterus. The menstrual flow was quite normal in quantity, the first time in years that this had been the case. The patient, however, suffered much from cramps.

Jan. 9th. Seventh application made *ut supra*. After going home, the patient had a severe attack of pain, and

Jan. 12th. The uterus was found quite sensitive, and giving an impression of being swollen. Sound entered only four inches instead of four and a half. A current of thirty milliamperes was given, with intra-uterine electrode negative. Pains all subsided, and patient expressed herself as “feeling splendidly.” After this séance, the abdominal electrode was modified in more precise accord with Apostoli's directions. A thick layer of moist clay was moulded over the abdomen upon a layer of tarlatan, and the wire electrode was closely applied to this. From this time it was found possible to administer to the patient (and to others) a current of two hundred milliamperes without difficulty, so long as every portion of the circuit was kept absolutely motionless. The least jar was followed by an intolerable shock. The applications were thus repeated on Jan. 17th, 23d, and 26th, this being the eleventh; then occurred the second menstruation, this time unattended by either hemorrhage, pain, or eschar.

The twelfth application was made on February 6th, continued February 13th and 16th.

Third menstruation on February 21st. Fifteenth application on March 3d. Sound passed only three and one-half inches, causing, however, considerable bleeding. Repeated treatment March 7th.

On March 15th, a slight hemorrhage occurred and lasted three or four hours.

Fourth menstruation began on the 19th; no pain, but considerable bleeding for a short time; complete arrest on 23d and 24th; became profuse on 25th; tampon of styptic cotton applied, flow arrested.

March 26th. Seventeenth application, two hundred milliamperes, fifteen minutes with positive pole. Sound passes four inches, thus increase of depth since March 3d. Repeated March 28th, 31st, April 2d, 4th, 7th, and 9th.

Fifth menstruation April 12th.

Treatment repeated April 25th, 27th, 30th, May 2d, 4th, 7th, and 10th.

On April 9th, just before menstruation, the uterine cavity again measured four inches. But on the 27th, the measurement was again found reduced to three and one-half inches.

The application on May 10th (the thirtieth) was made, by an error in calculation on the part of the patient, on the very day that the sixth menstruation was due, and on which, indeed, it came on. The period was, however, attended by no mishap, and only lasted four days.



May 18th. The sound again entered four inches. Applications on this day and on May 21st, 24th, 26th, 28th, 30th, June 1st and 4th (thirty-eighth application).

On the 24th, the uterine cavity was again reduced to three and one-half inches. On the 28th, bimanual palpation found that the mass behind the uterus, *i. e.*, projecting from the posterior wall, seemed to have entirely disappeared. The mass to the left remained. Uterus much more movable than formerly; all sensitiveness had disappeared.

Seventh menstruation on June 6th; lasted several days. The flow was not profuse, but there was a frequent discharge of large, tough, almost solid clots, unaccompanied by fluid blood.

June 13th. Mass protruding to left of the uterus had as completely disappeared as that behind the uterus had already done. The cervix was dilated, and the tip of the tumor was found distinctly presenting. The sound was passed and, turning to the right, penetrated only three inches. But upon being reinserted, and pointing to the left, it seemed to glide over the surface of the tumor to an extent of fully four and one-half inches.

The patient was etherized, placed in Sims' position, and after thorough bichloride irrigation, the end of the tumor was grasped by a bull-dog forceps, and traction made in a way that necessarily increased the dilatation of the os. After awhile the patient was placed in the dorsal position, and the finger could then easily trace the tumor projecting into the cavity of the uterus from a very broad base that covered almost the whole of the left wall. As it was impossible to insert the spoon-saw into the cavity, and the tumor steadily descended under the efforts of traction, these were continued. After some time the tumor projected about two inches beyond the vulva, and then the edge of its capsule, completely torn across, was seen at the uppermost part of the projecting portion. From this time, while traction on the tumor was continued by means of successive bites of the forceps, the effort was made, by inserting the finger underneath the edge of the capsule, to shell the tumor out of it. This double manœuvre was completely successful, and the entire tumor finally shelled out.

A moderate amount of hemorrhage followed the enucleation of the tumor. This was controlled by an iodoform-gauze tampon, the first part of which was packed into the cavity of the uterus; remainder placed in the vagina, and a T-bandage applied. The tampon was removed in twenty-four hours; bichloride injections made daily for a week, during which the patient remained in bed. From this date, recovery was complete.

The foregoing result of the electrical treatment is not mentioned as a possibility by Apostoli, nor have I seen any similar case recorded. The tumor was at first submucous and intra-mural,

situated in the left wall of the uterus, and tending to project or grow further to the left, as well as backwards and downwards. The intra-uterine examination made in 1885 had entirely failed to detect any polypoid growth within the cavity; and bimanual palpation at the beginning of the electrical treatment and throughout its course unequivocally detected the projection outwards of the neoplasm. The sagging down of the tumor disappeared first; and a month later, the whole mass was found to have moved from the outer to the inner-half of the uterine wall, and to project through the torn capsule into the cavity of the uterus. To effect this remarkably displacement, two conditions must have been induced: the resistance on the side of the cavity must have been diminished, and the contractile force of the muscular fibre in the main tissue of the uterus must have been increased, while the fibres of the myoma were relatively unaffected. The tissue of the myoma would then interrupt, instead of continuing, the propagation of contractile waves started in the surrounding tissue; it would become therefore a foreign body, lying inert in the midst of the healthy tissue of the uterus; and the latter would acquire a tendency to expel the tumor—tendency which would not exist while the function of the uterine fibre was in abeyance, paralyzed, and its nature therefore little differentiated from that of the new growth which is structurally so similar. The first effect of the electrical treatment was so thoroughly to cauterize the internal surface of the uterus that a thick eschar was eliminated, composed of the necrosed endometrium. This membrane is known to be intensely vascular in cases of uterine fibroids, and is the immediate source of the hemorrhages. The cauterization at once arrested the menorrhagia; its effect resembling that of the curetting recommended by Dr. Coe, but being far more thorough. Thus, long before the patient was cured, her troublesome symptoms, menstrual pain and hemorrhage, were completely controlled. But this destruction of the thickened endometrium and the repeated cauterizations to which the uterine cavity was subjected, kept constantly diminishing the distance between the tumor and the cavity of the uterus. According to Apostoli's theory, the diminution should be effected, not by means of the actual destruction of tissue, but by a movement of absorption determined by the passage of the current or the application of the negative pole. He attributes

the absorbent virtue principally to the negative pole : but in this patient the positive pole was used invariably until May 25th ; on this date, and also on the 28th, 30th, and 1st of June, the negative pole was used ; but at the last application, June 4th, just before menstruation, the positive pole was resumed. Probably by a combination of effects the electrical applications seem certainly to have destroyed or caused an absorption of the inner wall of the uterus, as far as the capsule of the tumor ; until finally, at the seventh menstrual period, the capsule itself ruptured and the tumor was immediately pressed through into the uterine cavity. The pressing force could only be the contractile power of the uterine tissue, acting steadily upon the neoplasm imbedded in it, and whose tissue, though structurally so analogous, failed to contract. The gradual retreat of the tumor from the outer to the inner part of the uterine wall could be followed during successive examinations. In this retreat, the tumor followed the line of the least resistance and moved towards a point where the resistance, already greatly lessened by the first applications that caused the exfoliation of the thickened endometrium, was constantly being diminished by the successive cauterizations of the subsequent treatment.

The expulsion of so many solid blood-clots at the menstrual period which immediately preceded the presentation of the tumor seemed to have been associated with the rupture of the capsule, which permitted the tumor to be forced through its shell. It is remarkable that this process was unattended by the pains which usually mark the attempt at spontaneous expulsion of a uterine fibroid, especially where this has been determined by ergot.<sup>1</sup> From the size of the tumor, as measured after its expulsion, it does not appear that its dimensions could have been markedly affected during the prolonged electrical treatment. The reabsorbent effect of this treatment was exerted, if anywhere, upon the inner wall of the uterus. But, during the treatment, the depth of the uterine cavity seemed to vary considerably, *i. e.*, within the limits of an inch. It was often, though not regularly, found enlarged just after menstruation (once, just before), and always diminished again after the first one or two electrical applications which succeeded the period. This enlargement thus followed, though on an exaggerated

<sup>1</sup> See case related, in *Am. J. Med. Sciences*, by M. P. Jacobi.

scale, the physiological enlargement of the uterine cavity which is habitually associated with menstruation. But when it did not precede, but followed the menstrual hemorrhage, it seemed to depend on a post-menstrual relaxation of the uterine fibre, and then at least to correspond to the pathological condition of "post-menstrual subinvolution."<sup>1</sup> The repeated application of the electricity repeatedly and systematically checked this subinvolution, and restored the normal condition. *Objectively, it never seemed to do anything else, and thus the treatment offered a type of the mechanism which we have claimed as characteristic of all successful intra-uterine treatment; it repeatedly counteracted menstrual subinvolution, and by thus correcting the aberration of the physiological process, it enabled the latter to gradually effect the involutions necessary for the cure of the localized metritis, i. e., of the myoma.* Thus the first and marked involution process was that of the first menstrual period after beginning treatment, when the thick eschar sloughed away during menstruation. The second evident and extensive involution was that of the seventh menstruation, when the capsule of the tumor, by this time immediately subjacent to the endometrium, sloughed sufficiently to permit the tumor to burst through it. This last sloughing was manifested by the abundance of solid clots eliminated, probably inclosing shreds of membrane. In both cases, the sloughing did not take place immediately after the electrical cauterization, which, indeed, was produced many times in the course of the six months, without any such effect. But they occurred during the period of the menstrual hemorrhage or involution, when a certain degree of sloughing is normal.<sup>2</sup>

When chemical cauterizations of the endometrium are made, they also favor sloughing and thus the involution of an abnormally thickened endometrium, and, by a reflexly conducted stimulus, they arouse the contractility of the uterine fibre, which latter, compressing the blood channels in its substance, thereby raises the local arterial tension. A vigorous current of arterial blood tends to substitute itself for the sluggish current of venous blood previously in excess. Oxidation of imperfectly vitalized material, i. e., whose nutrition is retrograd-

<sup>1</sup> See "Studies on Endometritis," JOURN. OBSTETRICS.

<sup>2</sup> Ibid.

ing, is substituted for the continuous growth facilitated by this excess of venous blood.

As any powerful impression made upon the endometrium thus tends to reflexly excite the contractility of the uterine muscularis; electrical cauterization has, to this extent, the same effect as intra-uterine cauterization by nitric acid, iodized phenol, etc. But the passage of a powerful galvanic current through the uterine tissue must, in addition, exercise a special influence upon its nerves and unstriated muscle fibre. While the current is absolutely constant, it is to be of course expected that no uterine contraction will occur; indeed such contraction is to be sedulously avoided. But the subsequent effect to be expected should resemble that obtainable by the passage of the constant current through muscles affected by spinal paralysis. It is established that, when the spinal lesion is slight, muscles and nerves may be restored to their function by means of galvanization; and thus many muscles in a paralyzed limb may recover even when some among them prove to be irremediably damaged.

The normal function of the uterine muscle is peristaltic contraction, which only becomes tetanic and painful when marked resistance is opposed to its equable propagation (as in some forms of dysmenorrhea), or the expulsion of a foreign body from the uterine cavity. The painless peristaltic contractions of the uterus during pregnancy offer the type proper to the organ, and thus entirely resemble the intestinal peristalsis, as it might be expected that they should. It is contractions of this nature that are typically excited in the uterine muscularis by electricity, so long as the fibroid is intra-mural, and does not project into the cavity of the uterus through a torn capsule. It then tends to excite the violent contractions proper to labor. When these do not occur spontaneously, they are excited by efforts at traction upon the tumor, and powerfully aid in its enucleation and expulsion. Indeed, without such expulsive contractions of the uterus, it is difficult to understand how traction on the tumor could ever suffice for its removal. It has already been said that the displacement of the tumor observed in our case could only be accounted for on the assumption that peristaltic contractions had been excited in the healthy uterine tissue, and had not extended to the neoplasm, although this consists so largely of uterine muscle-fibre. The differentiation between

the part of the uterine tissue aroused to functional activity and that which failed to respond constantly helped to depress the nutrition, and finally to determine the elimination of the latter.

The wedge shape of the tumor, whose smaller end presented, is a very interesting circumstance, and often observed in tumors expelled under other modes of treatment or spontaneously. This shape would necessarily be assumed by any solid body which, by means of compression, was being gradually forced through a dense, but elastic and slowly-yielding mass. When such a tumor becomes free in the uterine cavity, its own weight constantly draws on the point of attachment, attenuating this to a pedicle much narrower than its own bulk; and the proportions of the two extremities are then reversed. But, in this case, the tumor had not presented long enough for such a change to take place.

The permanent arrest of hemorrhage, from the very beginning of the treatment<sup>1</sup> is to be ascribed in the first place to the destruction of the highly vascularized endometrium, the most vascular portion of the uterus in submucous uterine fibroids. But it would seem further that the blood-vessels of the body of the uterus became contracted, either from the compression of muscular fibre, regaining its tonicity, or by some more direct effect of the electrical current upon them.<sup>2</sup>

Such contraction of blood-vessels would diminish the nutritive supply of the myoma, and provide for its shrinkage by the same mechanism as ergot is supposed to do. As already stated, this case, though extraordinarily successful—a radical cure being effected after thirty-eight electrical applications, extended with tolerable regularity over a period of six months—does not offer the usual data for the expectation that the fibroid will be gradually removed by a process of molecular absorption.

The estimates of change in the size of the tumor, which could be formed from bimanual palpation, could only be approximately accurate: and at all events these seemed to indicate only a very moderate change in the tumor's dimensions. The depth of the cavity seemed to shrink from four and a half

<sup>1</sup> There was a single menorrhagic period.

<sup>2</sup> According to the statements of Legros and Onimus, made many years ago, a descending galvanic current dilates, an ascending current contracts blood-vessels. From the position of the poles in the treatment of the above case, the current was nearly always ascending.



to three inches ; yet on the occasion of the last measurement, just before extraction of the tumor, after the right side of the cavity had been measured at exactly three inches, the left side, where the sound glided over the surface of the tumor to its base, measured a distance of four and a half. Nevertheless, it is by no means impossible that the process of molecular absorption, which was initiated upon the submucous surface of the tumor, extended to some extent throughout its mass ; and changed this from a diffuse hypertrophy of the uterine wall into a compact body of sufficiently manageable dimensions to be acted upon by the contractile force of the surrounding tissue which was constantly becoming more definitely demarcated from it. Apostoli has no hypothesis to offer on the mechanism by which the constant current, if sufficiently powerful, should determine reabsorption of neoplastic tissue. Since a current of a certain strength destroys all the vitality of organic tissues, it may be inferred, however, that less dangerous currents, if still powerful, *may diminish the vitality of the same tissues and thus render them subject to the involution processes of the menstrual period.* We are thus brought to conclude that this new treatment, like all others really effective in homologous uterine disease, *acts by facilitating the normal influence of menstruation in inducing involution.* There is an extraordinary difference in the impunity with which this treatment can be borne, as compared with that of chemical cauterization. In the beginning of the treatment of this case, the applications were made only twice a week, and not within five or six days of an expected menstrual period. But during the last three months, counting from March 28th, they were repeated three times a week, pushed up to the very day before menstruation, and even on one occasion (by mistake) the application was made after the menstrual flow had begun ; yet no evil consequence ensued. On the contrary, the benefit of the treatment was much more marked as soon as the applications were increased in frequency. It seems not impossible that, had an equally energetic treatment been adopted at the outset, the tumor might have been expelled in three instead of six months. Abundant experience shows that intra-uterine cauterization effected by chemical means is extremely dangerous if made during the premenstrual week, and can rarely be repeated more than twice a month, often not more than once a month, without

causing severe reaction. The reaction consists in the collateral venous hyperemia which invariably occurs in the submucous parenchyma of the uterus; and may very readily extend into the peri-uterine tissue. The electrical cauterization is also attended by collateral hyperemia, but it seems to be definitely limited around the cauterized locality, and all tendency to extend counteracted by the coincident influence of the current in contracting blood-vessels.

---

NOTES ON MEASLES.<sup>1</sup>

BY

LACHLAN TYLER, M.D..

Washington, D. C.

AFTER dealing with an epidemic such as visited this community during the past winter in the form of measles, it should be both instructive and interesting to "compare notes" in reference to any unusual manifestations of the disease which may have come under observation. The sequelæ of measles may occur directly or indirectly as a consequence of the malady. In the latter case, they would be attributable to the depreciated state of the system, which would render it more susceptible than under ordinary circumstances to the injurious effects of various influences.

It is rare for children under six months of age, as for very old persons, to contract measles during an epidemic, and at the outset it would be interesting to learn the experience of any one in witnessing the occurrence of the disease at those two extremes of life.

The unusual prevalence of catarrhal affections among all classes since the beginning of the winter has led me to the idea that they may have had something more than merely a coincident relation to the measles outbreak, and were not infrequently examples of infection with the poison of the disease, which, however, stopped short of producing the eruption,

<sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, March 2d, 1888.

thereby constituting the recognized but uncommon type of *morbilli sine exanthemate*.

The first case of measles to which I was called occurred in December last, in the person of a little boy who had been attending public school. Exactly ten days after the eruption appeared in his case, the prodromata of the affection developed in his brother, who was younger. Both cases progressed without serious mishap, and resulted in perfect recovery. I have since then attended sixty or seventy additional cases, but was never able in any of them to calculate with the same degree of accuracy the accepted period of incubation; the reason being that the time of exposure to the contagion could not be so clearly designated.

In the third case, which followed shortly afterward, and to which, judging from subsequent events, the spread of the disease to a number of other individuals was due, the prodromal symptoms were so slight as to have been overlooked almost entirely; the first real intimation of any trouble being the occurrence of a facial eruption unattended in any noticeable manner by either catarrhal or febrile symptoms. Isolation was enjoined more as a matter of precaution than from any feeling of certainty on my part that measles, rather than a less important disease, existed.

Whatever may have been the experience of others, in nearly all of my cases the cough was exceptionally severe, and sometimes (until controlled by medicine) really harassing. As forming one of the prodromata, it likewise preceded by a number of days all of the rest of them in the majority of instances. It often seemed, in fact, to begin at what probably constituted the date of commencement of the incubation period, and to grow worse as the stage of invasion was approached. It was greatly out of proportion to the condition of the respiratory tract; the bronchitis, as a rule, being very mild in character whenever by physical exploration of the chest its presence could be at all determined; and the pharynx being comparatively but slightly congested. It appeared to be due principally to a purely irritable state existent in the larynx; the vocal cords, however, not being affected in a way to interfere during the intervals with clear phonation.

During the stage of invasion and before the anatomical changes were noticed on the surface of the body, all doubt,

when any happened to exist, as to the significance of the general symptoms presented, was eliminated by the observance of an eruption upon the velum palati; or frequently, in the absence of this, by the presence of small areas of highly congested mucous membrane in the same locality. I am aware that both conditions have been considered quite peculiar to the disease, but I do not know that the same amount of pathognomonic importance has heretofore been attached to them. From my own experience I am convinced that they are invariably to be found on careful inspection, and constitute by themselves the surest precursory sign of the affection.

After full display, the eruption upon the body suddenly disappeared in one or two cases, without there being any pulmonary complication or other palpable reason for it. No harm accrued to the patients, however, and after the lapse of ten or twelve hours it returned, and the disease then pursued the customary course. The fever, it should be stated, was very mild prior to the reappearance of the eruption, that is, during the time of its first appearance and of the interval when it receded, it then reached the average altitude. It seemed to have become impatient at the tardy progress of the period of invasion, and to have made the effort to anticipate the proper hour for its own appearance. Partially failing in this attempt, it had temporarily subsided abashed, in a suffusion of erythematous blushes.

The tendency to diarrhea was exhibited in only a few cases and I am led to the conclusion that it was averted by the practice pursued of administering a mercurial cathartic as early as possible during the prodromal stage, which doubtless had the double effect of disinfecting the alimentary canal and of clearing it of any morbid principle, or material capable of causing mechanical irritation, that might have been lodged in it prepared, otherwise, to produce the trouble.

On the other hand, considerable difficulty was encountered in meeting the indications of constipation, which was more or less obstinate in several cases. Previous to their illness these children's bowels had been perfectly regular, and any effect of the fever in possibly drying up the secretions was, at least in a measure, counteracted by the free administration of water sufficiently cool to be refreshing. These cases were all of a highly sthenic type, and showed none of the characteristics of

asthenia, not even to the extent of looseness of the bowels. They were not seen until the eruptive stage, when the intestinal habit had already been formed and could only, at most, be corrected by drugs—not *outlined* by them as it might have been at an earlier date.

It is worth mentioning that out of such a large number of cases, chiefly under twelve years of age, convulsions occurred in none; and there was, furthermore, no exception to the order in which the eruption usually proceeds, viz., first upon the face, and then upon the body and extremities.

Pneumonia of the croupous form, as revealed by dulness, tubular breathing, exacerbation, and cyclical course of the fever with abrupt defervescence, was incidental to two cases, a girl and a boy. In the first, it attacked the lower lobe of the left lung; and in the second, the middle lobe of the right. The gradual departure of the fever, and the continued presence of subcrepitant râles in both lungs after the eruption had faded, afforded fairly good foundation for the belief that catarrhal or lobular pneumonia had occurred in several cases.

Severe earache took place in a child and in an adult, the latter being a married lady nearly forty years of age. In her case the ear discharged, but not so in that of the child.

I was called on February 4th to see a boy, 8 years of age, who two weeks before had safely passed through an attack of measles without medical attendance. I found him in bed, with a normal temperature, but with both lower extremities in a semi-flexed position. The surface from the lumbar region downward was somewhat hyperesthetic; the lumbar vertebræ were sensitive upon pressure, and any attempt to forcibly extend the legs was productive of pain, and met with his tearful objections. The statement, resulting from inquiry, that he had suffered with incontinence of urine from the beginning of his trouble, two days before, led to an examination of the penis; but neither redundancy nor adherence of the prepuce, nor any other abnormal condition associated with the organ was found to exist. I was told that at night he became fretful, had disturbed slumbers, and labored under a "high fever" until morning. Further investigation into the history drew forth the information that, soon after the measles disappeared, he was removed from the house in which he had been sick to the one he then lived in, and the suggestion was made that he may have caught cold *in transitu*. A suspicion of syphilis hung around the case, but it was not sufficiently strong to justify immediate resort to specific treatment. Protected from exposure, he was ordered to take a warm

bath, for both its sedative and cleansing effects, and afterward a mercurial cathartic, to be followed in proper time and at regular intervals by a bromide mixture. Besides these, a stimulating liniment was directed to be rubbed gently into the lumbar region, and ten grains of antipyrin were to be given at night, and repeated every two hours, should the fever return and linger. The second day following, when I saw him next, he was in much the same condition as far as the contractures were concerned. After taking two doses of the antipyrin each night, according to account, the fever had become promptly subdued, and refreshing sleep and quietude had been induced. An eruption, however, had meanwhile made its appearance upon the face and body, which, though sparsely disposed, was confluent, elevated, and assimilated in every way to that of measles. No fever of any moment accompanied it during the time of my visits, and there were no ocular symptoms, but there was some angina. Considering it barely possible that the rash might have been due to the bromide mixture, it was forthwith discontinued, and the oil of gaultheria in five-drop doses every four hours administered in its stead. A sinapism was also directed to be applied to the small of the back over the spinal column.

To be brief, the eruption after three days rapidly vanished, at least from the body, and with equal pace the disturbances in the lower extremities passed off, and use of them was regained. But at the same time, as if by transference of the diseased state, the cervical vertebræ became tender to the touch, and stiff-neck, together with hyperesthesia, extending to the shoulders and arms, occurred. There was no opisthotonos. These symptoms lasted two days longer, and, upon their disappearance, the last vestige of the eruption, which had remained confined to the face after that on the body was no longer visible, finally vanished. The oil of gaultheria was continued for several days more, at the end of which time the boy, being convalescent, was put upon a ferruginous preparation, and dismissed from further attendance.

There can be no doubt but that this was a genuine case of spinal meningitis, directly or indirectly secondary to measles. If the former, then the accompanying phenomena must have indicated a relapse of the affection after an interval of two weeks. If it were the latter, the organism must have been left in a condition very susceptible to the baneful effects of cold following exposure, and a rheumatic disposition was created. Adopting this view, the eruption, by not possessing the characteristics of roseola, was either an anomalous one, or, even though very persistent and contrary in other respects to the idea, with bare possibility that of German measles without glandular involvement. None of my cases were asthenic or typhoidal; there was no instance of epistaxis, none of croupous



laryngitis or of any other alarming complication more than I have mentioned, and, furthermore, death did not occur in any.

Ellis states the average mortality of measles to be one in fifteen, but I am greatly inclined to believe that this estimation is much too high, and that instead of seven per cent of deaths, as he makes it, the number is in reality considerably less, especially after the elimination of certain factors, such, for example, as those which are connected with bad hygienic conditions, which, properly speaking, should not be enumerated with others of an equally deleterious nature, but which are considered more in the light of legitimate complications of the disease. Nothing could more plainly demonstrate the potency of unsanitary environment in the production of death among those attacked with measles than the mortality reports of the Health Department of the District of Columbia. Notwithstanding the fact that the white population is double that of the colored, it is therein shown that the death-rate from this disease among the latter, who live so generally in the utmost squalor, is not alone relatively, but actually greater than it is among the former.

Unless it can be proven, therefore, that the negro is as peculiarly susceptible to measles as he apparently is insusceptible to scarlet fever (according to the same reports), it must be admitted that there are good grounds for the belief I have expressed.

---

#### ELECTROLYSIS; ITS VALUE IN DIAGNOSIS AS WELL AS IN TREATMENT OF INTRA-ABDOMINAL AND INTRA-PELVIC TUMORS BY THE AID OF A NEW INSTRUMENT.<sup>1</sup>

---

BY

EUGENE C. GEHRUNG, M.D.,

St. Louis, Mo.

---

ELECTROLYSIS in gynecology, though yet comparatively new, has already been described by master hands, and successes have been obtained upon which the profession may look with pride. It is not my intention to recapitulate what has been written, but

<sup>1</sup> Read before the St. Louis Obstet. and Gyn. Soc., May 17th, 1888.

merely to report a few facts which I have observed in my own practice. If I have misinterpreted the phenomena which presented themselves in my cases, it is because I have been deceived, and I shall gladly accept a more correct interpretation.

In my practice of electrolysis for the removal of fibroid tumors, I have observed two widely different processes toward their resolution.

The first is that which is generally recognized. It may be shortly described as gradual atrophy, caused by a disarrangement and subsequent absorption of the constituent elements of the neoplasm, by means of electrolysis or electro-puncture, whereby the tumor may completely disappear, be reduced in size, or its further development prevented.

The second mode of termination has heretofore not received the proper attention. It is closely allied to the former in its origin, but widely different in its ultimate conduct. It answers to the following definition: "*Cystic degeneration of fibroids caused by electrolytic puncture.*"

Around the tip of an electro-negative pole introduced into a uterine fibroid an accumulation of fluids and gases takes place, the product of electrolysis. Some of these mixed particles escape along the electrode, while some remain imprisoned on its withdrawal. These retained particles are usually absorbed, and may possibly represent an active principle in the process of atrophy of the fibroid. If, on the contrary, they are not absorbed, the nucleus for the formation of a cyst is planted. This cyst of electro-chemical detritus grows by gradual increase of its contents and consequent thinning of its walls. Thus a fibroid may be transformed into a cysto-fibroid, and finally into an abscess, with the symptoms of septicemia, chills, elevated temperature, rapid pulse, nausea, headache, etc., etc. When these symptoms have occurred after the use of electrolysis it was said "the patient did not take kindly to electricity," the tumor instead of diminishing began to grow, "*typhoid symptoms*" resulted, and the patient died, or laparotomy was performed and the patient recovered.

In support of the foregoing remarks I shall quote the headings of two only of the cases reported by Dr. Ephraim Cutter.<sup>1</sup>

"CASE II.—Large myo-fibroid; *softening and fluidity*<sup>2</sup> fol-

<sup>1</sup> AM. JOURN. OBST., etc., February, 1887, pp. 121 and 127.

<sup>2</sup> Italics mine.

lowed first operation, tumor larger; case obstinate; abdominal section successful; recovery.

"CASE X.—Abdominal tumor; at first very hard; after two applications assumed a cystic form; regarded as improved; third operation followed by *typhoid symptoms*; neglect of ordinary care; death."

To quote more such cases from the same or other authors would unnecessarily prolong this paper without proving more.

In two of my cases of the second variety (*i. e.*, cystic degeneration) the symptoms tallied closely with those of the cases just quoted.

The first case, consisting of a large bilobed myo-fibroma, progressed quite satisfactorily, and the lady, who was a complete invalid, considered herself perfectly well after a few punctures. On examination of the tumors after a longer rest, I noticed a slight increase in size of these, and thought I could detect fluctuation. Both of these facts I communicated to the patient's regular physician, and made to him propositions for the further treatment of the case.

The doctor informed me, however, that it was too late to do anything more for the patient, as she was to return to New York in a few days to join her husband. Dr. E. promised to recommend the patient into good hands. All Dr. E. and myself have learned of the case since is: "She was operated, and died from hemorrhage." Probably laparotomy.

My second case was one of exudation-tumor, formed around a subserous fibroid, diagnosed by several physicians as long as fifteen years ago. About ten years ago, attempts were made to cure this fibroid by ergot and dilatation of the uterine cervix, in the vain hope of transforming it into a submucous fibroid, to be delivered *per vias naturales*; with the sole effect of setting up pelvic cellulitis or pelvic peritonitis, or both, wherefrom the patient came near losing her life. When she was brought to me by her family physician, I found the whole pelvis, with all its contents, massed into a solid cake, of irregular outline, reaching up to the umbilicus; callous in some places, in others of a fibrous hardness and completely immovable. This tumor had impinged to such an extent on the calibre of the rectum and bladder that the action of both was seriously interfered with, and great fear was entertained that these functions might, at any time, be completely interrupted. The case appeared hopeless, and had been considered so, long before the patient was brought to me.

I applied the galvanic current, the negative pole in the vagina, for a long time, in the hope of lessening the size and causing some mobility of the tumor, but without success. The case becoming more and more hopeless, I concluded to use electro-puncture, for which I selected principally what I considered to

be the fibroid. Four or five punctures, with electrolysis, seemed to cause little or no improvement. Shortly after the last the patient began to have chills, fever, and "typhoid symptoms." The tumor was found to be enlarging, and showing signs of fluctuation. Assisted by Drs. Funkhouser and Eversole, I punctured the very thick wall of the cyst through the vagina with an aspirator-needle and drained a large quantity of a serous fluid and about an ounce of pus. While the cyst was draining, I enlarged the opening by means of a narrow bistoury. Through this opening I introduced one of my uterine aspirating tubes (double canula), and by means of it established a constant drainage with carbolized water for several days and nights. The temperature and pulse were both reduced almost immediately. The tube slipped out of the cyst apparently too soon, and the cyst either refilled, or one of the other punctures went through the same process accompanied by all the symptoms of the former. The tapping was repeated, and this time the contents were a mixture of serum and pus, somewhat fetid.

The patient was so much inconvenienced by the presence of the drainage tube that I was prevailed upon to remove it, as I found to my regret, too soon again. The improvement that followed was soon replaced again by the same train of symptoms, and again an enlargement was detected with very obscure fluctuation. I should, however, not forget to state that each successive enlargement occupied a different position from the preceding ones. Meanwhile I had planned and constructed for me by the Leslie Surgical Instrument Co. of this city an instrument which will be described below, by the aid of which the operation and after-treatment were much simplified. Since the tapping of this last cyst, the temperature range varied from 97.7° to 99.8°. The patient ate, slept, and felt well. She gained considerably in weight, and is at this date, twenty days after the last puncture, perfectly well. She was able to sit up and walk about, with the drainage tube in situ, through which daily washing and medication of the remnants of the cyst have been practised; using two per cent carbolized water. Iodoform oil and pure tincture of iodine were used by aspiration and irrigation until the flow from the cyst was completely arrested; then only was the tube removed. Occasionally electrolysis was repeated in the hope of still further modifying the cyst-walls, or rather the walls of the new abscess, and thereby hastening the obliteration. Though almost complete anorexia and nausea existed before the evacuation, etc., the most nutritious and digestible diet was immediately allowed and profitably retained.<sup>1</sup>

<sup>1</sup> While this article is going through the press, I have received the following correspondence from the patient, whose case is here described. She left this city about a week after the removal of the canula.

BALTIMORE, Md., July 1st, 1888.

*Dr. Gehrung.*

DEAR SIR:—I arrived here June 8th. I had a very pleasant trip, but I was very much exhausted for several days after my arrival. I was very

The experience gained in these and other cases of my practice of electrolysis forces me to the following conclusions: 1st. That "*electrodes for puncturing intra-abdominal or intra-pelvic tumors and cysts should be tubular, and not solid, as heretofore advised by electro-theraputists.* Large-sized aspirator needles or trocar and canula will do well. If by the use of cylindrical electrodes a loss by irradiation of electricity, in comparison to flat or crescentic electrodes, should really occur, this can easily be remedied by a slight increase in the quantity applied. The electrode being a tube, all fluids formed or found in a tumor or a cyst may be allowed to escape through it after the practice of electrolysis. By this precaution the cystic degeneration of fibromas may possibly be avoided, unless otherwise desired. Or, if a cysto-fibroma be knowingly or accidentally punctured, the cyst can be drained and medicated, and the cure much hastened. This has been the result in my cases of this description.

2d. The puncture should always be made at the most dependent point, if practicable, for the sake of drainage, and preferably through the vagina whenever circumstances permit, selecting even here the most depending and most accessible part, and taking good care not to injure important organs or large blood-vessels.

3d. Almost all non-malignant pelvic tumors, whether solid or cystic (abscesses included), can be treated with advantage, if not cured, by electrolysis, electrolytic puncture, or the latter combined with drainage and proper medication, without recourse to major operations.

Dermoid cysts, on account of their solid contents, make an exception to this rule. Whether extra-uterine pregnancy, in its earlier stage, colloid or multi-locular cysts make an exception also, and for the same reason, or whether, by means of electrolysis and the judicious use of the trocar, they will be classed among the tumors curable by electrolysis and drainage, will have to be decided in the future. If the puncture through the vagina is found impracticable, it will have to be performed at

much afraid the first few weeks that there was another abscess forming, as I had a great deal of pain and soreness. I feel greatly improved for the last ten or twelve days, I have a good appetite and am gaining strength and flesh. Since I am here I have fully gained 15 to 20 lbs.

Yours, etc.,

Mrs. M. F.

the most accessible and safest point through the rectum, uterus, or abdominal walls, never forgetting the point in view—drainage.

All cysts, fibro-cysts included, should be completely evacuated after the use of electrolysis.

Much of what has been said here concerning pelvic and abdominal tumors will certainly find application to tumors, cystic and solid, in other parts of the body.

The following is a description of the instrument, which I have devised for this purpose and exclusively used in treatment of my cases of fibromata, solid and cystic, cystic tumors, and abscesses, by electrolysis, drainage, and medication :

The instrument consists of a trocar and canula.

The trocar, including the handle of two and three-fourths inches, measures seven and one-half inches. The steel of the

A. M. LESLIE & S. I. CO  
ST. LOUIS.



trocar reaches through the handle and terminates below in an expansion or bell to receive the tip of a rheophore. Its stem is four and three-fourths inches long, and rests, with the exception of the point, in the canula. Just behind the point, the stem is thinner than elsewhere, so that the canula, by means of spring power, produced by a split in its distal extremity, will be prevented from causing any unevenness that might impede the introduction. The canula measures  $4\frac{3}{4}$  inches in length, and being arranged on the principle of a double canula, it has, inserted at an acute angle, an arm or canula one and one-half inch in length, almost parallel to the straight tube (see engraving), while the distal end of the tube is provided with a number of perforations or holes, like those in other drainage tubes, or like those in my aspirating uterine applicator.<sup>1</sup> Lastly, there is an inner tube, which can easily be inserted and withdrawn, as it is fastened merely by a conical friction joint. Near the further end this tube carries a nut or septum which, when inserted into the outer canula, divides the perforated region into two nearly

<sup>1</sup> AM. JOUR. OBST., etc., July and December, 1886.



equal parts. A probe point may be attached to the inner canula so as to close the front openings of both canulae, therefore the inner one of these has a few holes in the side, beyond the septum.

All that is necessary beyond what is here described consists in two or three pieces of india-rubber tubing, provided at the ends with perforated metallic tips for the easy attachment to the canula and an aspirator of some kind—one piece of tubing to connect a vessel or bottle with the outer or influx canula containing the fluids to be used; a short one to connect the aspirator to the inner or outlet canula, and a third piece to lead to a vessel to receive the waste. The aspirator as described in the AM. JOUR. OF OBST., etc., or as since modified by me for this purpose, renders excellent service. The calibre of the canula may vary from No. 6 American scale for catheters (No. 9 French) to any size to suit the taste of the operator or the conditions of the case. The No. 6 is the size I used in my operations, but it is rather small, especially with thick fluids.

The trocar and canula being plunged to the requisite depth into the tumor or cyst, the rheophore of the negative pole should be attached to the handle of the trocar and electrolysis applied in the requisite amount and the desired space of time. This done, the trocar is withdrawn and the fluid, if any be present, allowed or made to flow away through the canula, which is left in position.

The cyst being drained, the next step is to introduce the inner canula into the space previously occupied by the trocar. After attaching the rubber tubes and aspirator as described (loc. cit.), the cyst can be washed by antiseptics and alterants, as carbolic ( $\frac{2}{1000}$  to  $\frac{4}{1000}$ ), and mercurial bichloride solutions ( $\frac{1}{10000}$  to  $\frac{1}{20000}$ ), iodoform oil (20 gr. to oz.), tincture of iodine even to full strength, etc. By means of this apparatus these medicaments can be applied by aspiration or irrigation as the operator may desire.

When the cyst is cleansed and treated to satisfaction, the inner canula can be withdrawn, while the outer remains as a permanent drainage tube; one of the two arms of the canula should now be closed by a cork of wood or metal, and the other should be closed by a perforated metallic tip to which is attached a very soft rubber bag,<sup>1</sup> for the purpose of collecting for inspec-

<sup>1</sup> Children's rubber balloons, etc., will meet the indication.

tion and examination all fluids that pass through the canula from one visit to another. In this way, the cyst or wound is hermetically sealed, without arresting the constantly secreted fluids within.

The washing, etc., should be repeated about once a day.

After the removal of the aspirating apparatus, nothing can be seen except the little rubber bag, as the whole drainage tube is safely ensconced within the vagina, just reaching to within the labia majora, enabling the patient not only to lie down with comfort, but to sit up, walk about, and to micturate and defecate with ease.

If there is no fluid present, of course the trocar and canula may, after the use of electrolysis, be removed simultaneously, unless it be desired to leave the canula for future applications of this agent, without the necessity of a repeated puncture. For the reapplication of electrolysis, either the trocar may be re-introduced through the canula and the rheophore attached, or the latter may be attached to the canula itself. A silver canula seems to be sufficient for all purposes, as, after a sojourn of twenty days in an abscess cavity with the occasional use of electrolysis and pure tincture of iodine, the canula came out as clean and sound as when introduced; of course, a little tarnished. Twenty-four hours after the removal of the canula, viz., drainage tube, neither by sight nor touch could the place be found where the tube had rested.

I should also mention that before the commencement of the operation the canula should be insulated with a thick layer of collodion or shellac, etc., taking care to leave uncovered all that part of it which is intended to penetrate the tissues, for reasons to be stated below.

We come now to the diagnostic value of electrolysis, especially as applied by means of the instrument which I have just described.

From the literature on electro-therapeutics, as well as from my own practice, I consider myself authorized to state that one of the effects of electro-puncture, especially by the cathode or negative pole is, that the tissues perforated by the non-insulated part of the electrode become matted together and form a more or less continuous fistulous tract, whereby the escape of fluids into the interstices or intervals between the different tissues so perforated is prevented. It also appears to modify the tissues

along the tract of the electrodes so that inflammatory processes will rarely, if ever, be witnessed. Even punctures through the peritoneum seem to be of little importance, for which we have the attest of many trustworthy authorities.

If these premises are correct, we may conclude that:

1st. Electro-puncture, especially if combined with drainage, etc., is a curative agent for many tumors, as fibroids, cysto-fibroids, cysts of a great variety, and abscesses; and that,

2d. Electrolysis renders exploratory punctures comparatively harmless, and far superior to ordinary acupuncture with aspirator needles or the needles of the hyprodermic syringe, which latter means have formerly been recommended to clear up a doubtful diagnosis.

Based upon these facts, we are authorized, when the absolute differentiation between two possibilities has failed, when put to the test of the usual legitimate means of diagnosis, and especially if both otherwise admit of electrolytic treatment for their cure, we are not only authorized, but may safely use the drainage-electrode to clear up the mystery. The question being decided, either electrolysis alone or combined with drainage may be used, as the case demands. In many cases, an otherwise doubtful diagnosis may thus be decided, while in fact the curative treatment for either is started. This appears to me to be a far safer way to differentiate than by opening the abdomen when in doubt.

Had Dr. Semeleder, in his operations on ovarian cysts by electrolysis, made his punctures at the most dependent portion and drained the cysts, he would very probably have lessened the duration of the treatment considerably, diminished the number of punctures necessary, and lessened the mortality in his cases. Dr. Semeleder would probably have found more followers.

While writing this paper, I came across *The London Medical Record*, containing an abstract of one of Dr. Apostoli's papers, in which Dr. A. advises and practises electro-cautery puncture for hydro-salpinx. Dr. A. makes a large fistulous tract by means of a large trocar. This corroborates my view as expressed above, that most intra-pelvic and intra-abdominal cysts can be so reached and drained, and, I feel certain, with much greater facility and safety by my trocar and canula in combination with electrolysis.

Apostoli and Engelmann both state that electrolysis does not work favorably on abscesses. This statement is correct only as long as the matter is permitted to stay in the cavity. As pus should never be retained in the body, and as it cannot well be absorbed without causing septic derangements, the electrolysis may be applied before emptying the abscess for the purpose of modifying its lining membrane. Then we should remove its contents and wash and medicate the cavity, use drainage, and if found advisable again and again electrolyze the cavity to stimulate it still more to obliteration.

Dr. H. R. Bigelow<sup>1</sup> reports a few cases operated by Dr. Martin, of Berlin. Dr. Martin found in perimetritic exudates an abscess forming, and to avoid a possibility of puncturing a loop of intestines that might be adherent in the mass, opened the abdominal cavity, forced down the abscess, and punctured it through the vagina, leaving the drainage tube without further medication or washing of the cavity until the complete obliteration of the abscess. The propriety of opening the abdomen appears to me somewhat doubtful, as in such a case the bowel, if involved in the exudate, may not be found and consequently not be avoided with much greater certainty than if the abscess had been pushed down toward the vagina without laparotomy, and the drainage tube inserted. If with proper care the trocar is implanted in the middle line and made to pass up closely behind the womb while the abscess is pressed down in contact with the vagina, the chances of puncturing a loop of bowel, even if implicated in the exudate, are very small, while on the other hand laparotomy with its incidents, accidents, and sequelæ, if practised in a larger number of cases, will show a greater mortality and worse consequences than even a *possible* puncture of the bowel. Until the contrary is proven, I shall continue to hope and expect that an electrolytic puncture through a loop of the bowel fixed in such an exudate will, after the abscess cavity is completely obliterated and the tube removed, heal up kindly, especially if the trocar and canula are of moderate calibre.

If bad should come to worse, an entero-vaginal fistula would be the result—a condition much less bad and much more curable in such cases than most of the sequelæ of laparotomy.

<sup>1</sup> AM. JOUR. OBST., etc., May, 1888.

The scope of this paper being merely to communicate and urge this mode of treatment in the place of laparotomy, for certain tumors, and not to report details and cases, I will not enter upon otherwise useful particulars. I shall mention, however, that in my operations from twenty-five to seventy-five milliampères from five to twenty minutes have been used with satisfactory results, in quite a variety of tumors. Whether there is any gain in those extreme doses of electricity used by certain operators, except to know how large a dose human beings can tolerate, or whether these large quantities do not themselves prevent the sought-for result, I am not able to answer. This question will be solved by accumulating experience.

---

OCCURRENCE OF THE MAMMARY SECRETION, ACCOMPANIED  
BY CERTAIN RATIONAL SIGNS OF PREGNANCY, IN TWO  
NON-PREGNANT WOMEN.<sup>1</sup>

---

BY

GEORGE WOODRUFF JOHNSTON, A.M., M.D.,

Washington, D. C.

---

THE first patient of whom I shall speak is a woman, 32 years of age, stout, and of a healthy appearance. She has been married thirteen years and has been twice pregnant. Two years after marriage she was delivered at term, after a spontaneous labor lasting eight hours, of a living child. The second pregnancy terminated in an abortion at four months, six years ago. Her menstrual periods began when she was 18 years of age. As a rule they have recurred regularly every four weeks, lasted six or seven days, were normal in quantity, and were unaccompanied by any marked discomfort. There was no flow during either pregnancy, but six months after the living child was born and while she was nursing it, the catamenia reappeared. As has been said, her last pregnancy ended in an abortion six years ago, and after this she menstruated regularly until nine months ago. Since that time the flow has been very irregular, small in quantity, and has presented the characteristics, not of the normal menstrual discharge, but has been a mixture of mucus and blood, the former being in excess of the latter. During the past nine

<sup>1</sup> Extracts from a paper read before the Clinico-Pathological Society of Washington, D. C., June 19th, 1888.

months there has been frequent nausea and vomiting, a capricious appetite, constipation, and an increased and annoying flow of saliva. There has been also marked vesical irritability and a constant dragging pain, felt most intensely in the hypogastric region and about the sacrum. For the past five months she has experienced various abnormal sensations in the abdomen, a feeling of heaviness as if a foreign body were present, and subsequently irregular movements, not localized in any one portion of the abdominal cavity, but sometimes marked in one region, and again in a locality far removed from the first. These movements were exaggerated after fasting, but have not been accompanied by any audible sound. Three months ago the breasts began to enlarge and a fluid resembling milk could be expressed from the nipple. Both the size of the gland and the quantity of milk (as indicated by the ease with which it could be made to escape from the nipple) have been steadily increasing. This woman consulted me in order to ascertain whether pregnancy existed or not. In spite of many symptoms now present which she had likewise noticed during her two early pregnancies, and in spite of the presence of the mammary secretion, she did not believe herself to be again in this condition on account of the absence of certain indescribable sensations which had been associated with uterogestation when it had previously occurred. She had been living constantly with her husband and admitted that pregnancy was not impossible.

I examined this woman for the first time on May 31st, 1888. There was a slight laceration of the tissues at the posterior commissure. No abnormal condition of the vaginal walls could be discovered: there was no variation from the normal coloring. The cervix was small, of the usual consistency, and exhibited no evidences of former laceration. The uterus, which was examined carefully by every possible method of exploration, did not deviate from the normal in shape, consistency, or size. Its cavity, a sound having been carefully introduced after the bimanual had been performed, was found to measure three inches. The organ was slightly retroverted and lay rather more forward in the pelvic cavity than is usually the case, but could be moved about on the finger without discomfort to the patient. On vaginal, rectal, and the various combined methods of examination, no mass nor area of increased resistance or sensitiveness could be discovered anywhere in the pelvis. The abdomen was large and its walls relaxed and pendulous, but nothing abnormal could be discovered by the usual methods of physical exploration. The breasts were larger than one would expect to find them even in a woman of stout proportions, were tense, while the nipples were erect, and deeply pigmented primary areolæ, with distinctly marked sebaceous follicles projecting from them, met the eye. No secondary areolæ were apparent. A fluid in every way resembling milk could be expressed without much effort from either breast. On compressing the nipple rather sharply a small jet of milk was



made to issue from it with considerable force. A few days after the above examination, the usual uterine discharge showed itself, watery and faintly tinged with blood. This continued at intervals for five or six days and then disappeared. The patient has been examined on many subsequent occasions without the discovery of anything new. Following attention to the alimentary tract, the tongue previously coated has begun to clean, the appetite and digestion to improve, and the bowels have become more regular. Further than this, the abdominal movements have become less frequent and less marked. An examination of the urine shows nothing abnormal. The breasts, however, exhibit no reduction, but rather a slight increase in size, and milk escapes spontaneously from them in an amount sufficient to wet the clothing. Yesterday (June 18th), in the presence of another physician, an effort was made to use the breast pump, but with negative results, although on squeezing the nipple the usual jet of fluid was emitted.

The second patient to whose history I shall refer was a short, robust woman of 28 when I first saw her more than two years ago. Her first menstrual period occurred at the age of 14; the flow appeared subsequently at intervals of four weeks, lasted three to four days, and was always rather profuse and painful. After the birth of her second child, the duration of the flow was extended to eight days, and the quantity became further increased. In the intermenstrual period leucorrhœa was constant and profuse. The woman had never miscarried, but had borne two living children, the last five years before she came under my observation.

After several months of preparation, I closed an extensive bilateral laceration of the cervix, after previously curetting the uterine cavity with negative results. The immediate and remote effects of the operation were satisfactory; the large and flabby uterine body slowly decreased in size, the leucorrhœa subsided, and the menstrual flow became less in quantity and of shorter duration.

About one year after the operation, this patient again came under observation; she had, however, been seen from time to time during this interval. Her general condition was at this time excellent. The catamenia had appeared regularly every four weeks and lasted two days, although the amount of blood had slightly increased during the preceding few months, and labor-like pains accompanied the flow.

Three months before this visit to me, that is, about nine months after the performance of trachelorrhaphy, she began to suffer from vesical irritability and morning sickness, and after a short interval she fancied that the abdomen was increasing in size and that something was moving about within it. The breasts likewise became larger, and milk began spontaneously to exude from them. On examination, nothing indicating the existence of pregnancy was discovered, but the uterus, which

had previously occupied the normal position, was now sharply retroflexed, prolapsed, and tender, but was not enlarged. The breasts were found greatly distended with milk; the primary areolæ and enlarged follicles quite distinctly marked. The secretion was so plentiful as to ooze from the nipple and wet and stain the overlying clothing, while pressure caused the forcible discharge of a jet of this fluid.

The patient was examined frequently within the next two months, and her condition remained about the same during this period; milk still oozed constantly from the breasts; morning sickness and vesical irritability continued; she still believed that she felt something moving within the abdominal cavity; menstruation, profuse but not excessive, occurred every four weeks. Simultaneously with the restoration of the uterus to and maintenance in the normal position, her condition began to change, and at the end of the succeeding three months the gastric disturbance had ceased, and with it the abdominal movements; there was no further undue frequency of micturition, the breasts gradually became relaxed and, so far as could be ascertained, empty. During this period also the menstrual flow became less copious, and the pain accompanying it materially lessened in intensity.

Here, then, we have two cases with a flow of milk from the mammary gland, in one lasting for eight and in the other already for nine months. In both cases the fluid had the same general appearance as milk, and the microscopical picture presented in the first case reported, the only one thus examined, was quite characteristic.

In both, there were certain other symptoms which would lead one to suspect the existence of pregnancy. In both, these symptoms began practically at the same time as the secretion of milk, and in the case which was followed up (the other having been under observation for only a few weeks) the mammary secretion and the other disturbances, morning sickness, etc., became less marked, and finally disappeared simultaneously. In neither case was anything done (designedly) to influence the secretion. It is evident also that the existence of pregnancy must be excluded. Hence we are compelled to look elsewhere for the causation of this untimely activity of the mammary glands. The occurrence of this activity, with other disturbances usually associated with pregnancy, began in one case, we may assume, at the same time that a hitherto normally situated uterus became retroflexed, and were dependent thereupon. This would certainly seem to have been the case, for

with the restoration of the uterus to its normal position, these conditions became less marked and finally disappeared.

In the remaining case, I confess that I am at a loss for a hypothesis. The uterus here, it is true, was slightly retroverted but not enlarged, and could be moved about freely. It is difficult also to account for the irregularity, diminished quantity, and other altered characteristics of the catamenia. Other conditions of the genitalia which were not sufficiently gross to become apparent on careful physical examination, but which were quite capable of influencing the activity of the functionally closely related mammary gland, as is quite possible, existed in this case, or else the secretion of milk may be regarded as a disturbance accompanying a premature menopause and associated with perversions of the digestive function. This latter theory is quite tenable,<sup>1</sup> although the climacteric has occurred after fifty in two of three members of the patient's immediate family, with whose histories she is acquainted, and the remaining instance, a sister, aged thirty-five, is still menstruating; and, further, although no sufficient cause for prematurity of the menopause can be found in the history of the patient herself.

Any influence of a psychic nature can hardly be considered in this present instance, although, in the other case to which I have referred, such a stimulus may have been, with the uterine malposition, one of the associated causes of the lacteal secretion. For here the woman was quite convinced that she was pregnant, and could hardly be persuaded to the contrary.

I have purposely avoided any excursion into the literature of this subject, although I may be permitted at this point to allude to a very excellent Paris thesis dealing with the matter in hand.<sup>2</sup> In this thesis are enumerated the causes which are said to in-

<sup>1</sup> According to Tilt, mammary irritation and swelling was noticed in fourteen out of five hundred women at the menopause. The breasts, he says, are swollen and painful, the nipples sore, and sometimes distil a milky or glutinous fluid. It quite frequently occurs that the first symptoms of the change of life are mistaken for pregnancy. The menstrual flow stops, the abdomen gradually enlarges, and women who have had children are convinced that they feel fetal movements; the above-mentioned changes in the breasts are noticed, there is sickness, etc. He cites interesting cases.

<sup>2</sup> Duval (R.): *De la sécrétion mammaire [non puerpérale]*. 4to, Paris, 1881.

duce a secretion in the breasts of non-pregnant adult females. They may be briefly summarized as follows:

1st. Menstruation; 2d. A tumor of the breast; 3d. Affections of the utero-ovarian apparatus; 4th. Mechanical or psychic stimuli independent of any material modification of the organs; 5th. Cases have been recorded occurring after the menopause.

The author cites many interesting instances in support of these propositions.

In the first of my cases, the point from which the reflex stimulation originated is to me still uncertain; in the second, it may fairly be assumed that the retroflexed uterus and the local conditions associated with and dependent upon it were the causes of the activity of the mammary gland and of the disturbances of function and sensation occurring at the same time.

---

#### PAPOID IN THE TREATMENT OF DIPHTHERIA.<sup>2</sup>

---

BY  
J. R. BROMWELL, M.D.,  
Washington, D. C.

BEFORE reporting the following cases, I ask pardon for deviating from the all-absorbing subjects of obstetrics and gynecology, and leading you within the domain of children's diseases, a subject which, although embraced in the original plan of the Society, seems to have but little interest to some of its members, being more or less swallowed up in the more fascinating study of obstetrics and gynecology, presenting, as they do, a wider field for the display of brilliant manipulation or surgical skill. If we are willing to exhaust many nights in trying to prove the unjustifiability of the operation of craniotomy on the living child, or the obligation resting upon us all to give the child a chance for its life through a Cesarean section, ought we to weary of an hour or two occasionally devoted to the consideration of its well-being after its birth, or to the long gauntlet of diseases which it must run before its maturity? The fate of

<sup>1</sup>Read before the Washington Obstetrical and Gynecological Society, March 16th, 1888.

future generations depends more upon the successful management of children's diseases than upon the treatment of sterility or the successful delivery of the child by the dextrous application of the forceps.

My object in reporting these cases is threefold: first, to try and turn the attention of the Society a little more to the study of children's diseases; second, the field of both obstetrics and gynecology has been so repeatedly reviewed since the organization of the Society that there are few new subjects; and third, to call your attention to papoid, a comparatively new remedy in the treatment of diphtheria. Hoping that, although I may have nothing new to offer *you*, *I* may gain new and practical ideas from your discussion, I submit the following report:

On the morning of November 22d, I was called to see M. P., a boy of 11 years. His mother informed me that the day previous he complained of chilly sensations, pains in back and limbs, nausea, headache, and pain and difficulty in swallowing; that during the night he had high fever, and was delirious. These symptoms not abating, she had sent for me.

In reply to my questions, his voice was thick and nasal, but neither hoarse nor toneless. Complained of great difficulty in swallowing and stiffness and soreness about the neck and angles of the lower jaw. The parotid and submaxillary glands were enlarged and tender, respirations quickened, but easy and regular; his temperature was 105°, pulse 140 and feeble. On examining his throat, irregular patches of lymph or false membrane, thin, as though consisting of single layers of lymph, could be seen on both tonsils, that upon the right tonsil being larger and thicker than the patch upon the left. These formations could not be wiped away or removed with a mop of absorbent cotton without too great force or pain to the patient. The posterior pharynx, uvula, and pillars of the fauces were intensely congested and swollen, the whole fauces filled with a sticky, tenacious mucus, which he was constantly trying to get rid of by hawking and spitting. I told his mother that her son had diphtheria, and notwithstanding that, up to my visit, the other children had been with him, sleeping in the same room, I ordered them not to enter his room again under any pretense, and the patient isolated from all except his nurses. This was at once done, and every precaution possible, under existing circumstances, was taken to guard against the spread of the disease, the mother and grandmother waiting upon the patient.

Concentrated liquid nourishment was ordered to be given every three hours, and one or two tablespoonfuls of whiskey, depending upon the frequency of the pulse, every three hours; the time-honored tincture of the chloride of iron and

chlorate of potash treatment every three hours; between the hours for the administration of the medicine the throat to be gargled and mopped with the following: Carbolic acid, gtt. xxx.; chlorate of potash,  $\bar{3}$  iij.; glycerin,  $\bar{5}$  ij.; and lime water,  $\bar{3}$  vi. The mop used to be made by twisting a piece of absorbent cotton around a pliable stick or applicator. This mop in every case to be burned as soon as used, and fresh ones to be made for future use, small pieces of cotton cloth or rag to be used instead of handkerchiefs; these also burned after use; commercial carbolic acid to be constantly kept in all vessels used by patient to spit in.

November 23d.—He had passed a very restless night, high fever, and active delirium up to early morning hours, after which he slept quietly at intervals only. Temperature,  $104.5^{\circ}$ ; pulse still feeble, but not so frequent (130); respirations easy and regular; during night had a normal movement from the bowels. Kidneys acting normally; an increase in glandular inflammation extending to deep cervical glands. More tenderness and enlargement than on the day before.)

Had there been any doubt as to the nature of the disease, the present condition of the patient would have removed it. During the past twenty-four hours the membrane had rapidly increased and extended, small patches had coalesced, forming large masses. The tonsils were almost entirely covered, whilst here and there, flecked over the back of the pharynx, uvula, and pillars of the fauces were patches of membrane of varying size and thickness. That upon the tonsils was quite thick and of a dirty, ash-gray color. The later formations, composed of but single layers of lymph, were in some places thin, showing the subjacent tissues beneath them, in others approaching the leathery appearance of that upon the tonsils. Notwithstanding the regular administration of the medicine and use of mop and gargle as ordered, the breath was very offensive, fetid, and he was vainly trying to hawk and spit up the viscid and tenacious mucus which the highly inflamed mucous membrane was rapidly throwing off. The thin watery discharge from the nostrils indicated that the disease had invaded the nose.

In addition to the treatment of the day before, I ordered the nostrils sprayed or syringed every two or three hours with a warm dilution of the carbolic gargle. A five-per-cent solution of papoid, in equal parts of Price's glycerin and distilled water, to be applied to the throat by means of a mop of absorbent cotton, every hour, if necessary every half-hour. Every particle of membrane in sight or reach to be slowly and carefully pencilled or swabbed with this preparation, the mop to be fully saturated with it, so as to carry an ample supply into the pharynx, to insure that all parts of the throat should be reached, this to be done night and day; if necessary, to combat exhaustion, the dose of whiskey to be increased and given at shorter intervals.

November 24th. Considering the frequent interruptions, he



passed a tolerably good night, said his throat felt better. His temperature had fallen to  $101^{\circ}$ , pulse to 110, gaining in strength as it diminished in frequency. The glandular inflammation was diminishing, there was less tenderness and hardness. The most marked change was to be seen in the membranous formation in the throat: some patches had entirely disappeared, others considerably thinned, soft pultaceous masses come away upon the mop. In using some force in swabbing the throat myself, the mop was tinged with blood, and on examining the throat afterwards, one or two bleeding points could be seen where the membrane had been torn off. Very little fetor, and the secretion of mucus so far diminished as to give very little trouble. I ordered the treatment continued. Nourishment and whiskey, which he rebelled against, to be regularly administered.

November 25th. A very marked improvement, his temperature was normal, only a few patches of thin, softened, partly dissolved membrane to be seen, and these in localities hard to reach with mop, extending from behind the swollen tonsils and hanging from behind the veil of the palate. I carefully and slowly applied the papoid solution to every available part of the throat and ordered it continued as before, allowing a little more time for sleep during the night, provided there was no extension or increase in the membrane.

November 26th. Normal temperature, glandular inflammation rapidly disappearing. Throat clear of membrane, large plugs or masses had been discharged from posterior nares after syringing, and the nasal respiration was quite free; some catarrhal discharge. There was no perceptible fetor.

The interval between the doses of the iron mixture lengthened to four hours and the papoid solution to be alternated with it every four hours. Carbolic solution to be used as gargle and mouth wash ad libitum. Nose to be syringed every four hours.

November 27th. Favorable symptoms continuing; passed a good night, appetite good, very slight catarrhal discharge from nostrils, no false membranous formation in the throat. Tonsils and pharynx still inflamed and showing considerable loss of substance from ulceration; irregular, sharply defined depressions on both tonsils. Continue general treatment, but omit applications of papoid. Mop the throat and syringe the nostrils every four hours with the carbolic gargle. From this date his convalescence was slow but steady. There was marked prostration for about a week after the disappearance of the membrane from the throat, and for four or five weeks after leaving his bed he could not read without much pain in his eyes, owing to a slight impairment of accommodation, due to partial paralysis of the ciliary muscles. There was also a lax, flabby uvula and veil of the palate, which gave him a nasal voice for a few weeks. At this date, all these have disappeared and he is in perfect health.

I have reported this case in full, doubtless entering into need-

less detail, from its beginning to the entire disappearance of all false membrane, it being the first of a series of six cases, five of which occurred in one family, the sixth in a household remote from the others; none of which differed, however, one from the other except in degree of severity of the disease, and a tendency in one case for relapses or reformation of false membrane after its disappearance for several days. In regard to the remaining five, I shall confine myself to the throat symptoms only, as the object of this paper is to call your attention to papoid as a solvent and disinfectant of false membrane, and not to the treatment of diphtheria in general, its symptoms, etiology, or pathology.

December 1st. The grandmother of M. P., aged 76 years, was taken with pharyngeal diphtheria. The tonsils and posterior pharynx showed large patches of false membrane. Again I waited for twenty-four hours before applying the papoid solution to the throat, that I might be more certain of its action, confining my treatment to iron and potash internally, and the aforesaid gargle locally, and such constitutional and stimulating measures as the age and feeble condition of the patient demanded. On the morning of December 2d, the membrane had increased in extent and thickness. I ordered the papoid solution five per cent, applied every hour, night and day, every half-hour during day if necessary.

December 5th. Throat free from membrane; convalescence unbroken by any complication or sequelæ.

December 19th. The mother ill with pharyngeal diphtheria; tonsils, uvula, and posterior pharynx full of false membrane, glandular inflammation. Papoid, in addition to same treatment, every hour or half-hour, night and day.

December 22d. Throat free from false membrane; papoid omitted from treatment.

December 23d. Reappearance of membrane on tonsils and uvula, rise of temperature; return to papoid applications every hour.

December 24th. Membrane disappearing, temperature normal.

December 25th. Membrane gone.

December 28th. Membrane reappeared on pharynx and tonsils, small patches only; papoid applied every hour.

December 30th. Throat clear, convalescence slow but complete.

Mattie, the sister, aged 13 years, was taken on December 22d. Active inflammatory condition, temperature 105°; fauces full of false membrane; papoid applications every hour or half-hour, in addition to specified general and local treatment. In forty-eight

hours, the temperature fell to normal and the throat was free from membrane; convalescence rapid.

Mary, the other sister, aged between 14 and 15, was taken ill on December 27th. Active inflammatory symptoms, glandular inflammation decided. Membrane on tonsils, back of pharynx, uvula and pillars of fauces. Same treatment, papoid applied every hour or half-hour.

January 2d. Throat clear of membrane, temperature normal, all other symptoms most favorable: papoid omitted.

January 4th. Reappearance of false membrane on tonsils; return to papoid. In twelve hours throat clean, convalescence unbroken.

December 22d. I saw Harry E., aged 4 years, threatening convulsions, high temperature, pharyngeal diphtheria, membranous deposit considerable. Potash and iron treatment, papoid every half-hour, every hour during night.

December 23d. Difficulty of breathing, owing to accumulation of mucus in throat, during night alarming.

December 25th. Very little membrane to be seen, only a little behind one tonsil. Sitting up in bed playing with Christmas toys; temperature normal.

December 26th. Membrane gone, convalescence slow.

Whilst these cases are too few in number to establish beyond question the value of any plan of treatment, and granted that they showed no malignancy or great degree of severity beyond their primary stages, the unvarying results of the application of papoid, at very frequent intervals, justifies me in the following conclusions: That papoid, applied to diphtheritic membranes, is a safe and reliable solvent. That it possesses antiseptic properties; that the temperature falls rapidly with the disappearance of the membrane, which, according to Jacobi, proves the rapid absorption and elimination of the diphtheritic poison; that the phenomena of secondary blood poisoning were absent, owing to the rapid solution of the membrane, supplanting the processes of suppuration by which it is removed if left to itself. That the period of incubation either varied from eight days to thirty-five days, or the poison was conveyed to the two children, who had no communication whatever with the sick, by the clothing of those who did the nursing. That age is not exempt; that there is a marked family susceptibility to the poison of diphtheria, as evidenced by the fact that, whilst a friend who assisted in nursing, and the servant, a colored woman, who was in the sick-room a dozen times a day, escaped; every member of the family, from the youngest child to the grandmother, contracted the disease.

## CORRESPONDENCE.

---

THE SUBSCRIPTION FOR A BUST OF PROF. CARL  
SCHROEDER.

---

BERLIN, W. 10, Matthäi Kirch Strasse 12, {  
July 8th, 1888. }

*Dr. Paul F. Mundé.*

DEAR DOCTOR:—In consequence of the appeal to the medical profession, which was also published in the AMER. JOURN. OBSTETRICS, a sufficient sum was collected to enable the committee to order a marble bust of the late Professor Carl Schroeder, by the sculptor, Martin Wolff, which has now been erected in the central building of the University Clinic for Women, and presented with brief ceremonial observances to the present chief of the Clinic, Prof. Olshausen.

The bust is universally considered an excellent likeness, and is so placed as to be conspicuous to all visitors to the Clinic. I take pleasure in communicating this fact to you and those of the profession in America who contributed to the memorial, and remain, with thanks, very sincerely yours,

DR. J. VEIT.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

---

*Stated Meeting, May 15th, 1888.*

*The Vice-President, DR. H. MARION SIMS, in the Chair.*

DR. J. H. FRUITNIGHT presented a

MUMMIFIED FETUS AND PLACENTA,

with the following history:

Mrs. S., æt. 38 years, has had four perfect children, delivered at full term. Four years ago last November, she was delivered of a blighted ovum, also a mummified fetus, at the seventh month of conception, accompanied by clinical symptoms nearly the exact counterpart of those present at this accouchement, and which I published in the AMERICAN JOURNAL OF OBSTETRICS, Vol. XVII., p.

50. One year later, in November, 1884, I attended her during an ordinary miscarriage, which was not accompanied by any unusual phenomena. In August, 1885, she was delivered by me of a perfect, full-term child. Now again, on last Saturday, May 5th, I delivered her of another mummified fetus at the seventh month after conception.

Mrs. S. menstruated for the last time on October 15th, 1887. She thereafter suffered from the usual reflex symptoms of pregnancy, such as morning sickness, pains in breast, etc.; the abdomen at the same time increased in girth. Between the third and fourth month she experienced a sudden fright. After this time, she observed that her abdomen did not increase in size.

In the early part of March of this year, she had a dirty, sanguineous discharge which continued nearly two weeks. She consulted me on March 22d, a day or so after its cessation. I made a physical examination, and detected a uterus enlarged to somewhat more than the size of the third month of pregnancy. According to her history, she should have been at about the fifth month, and should have felt life, which she had not. I told her that, most probably, a similar state of affairs existed as had been present four years previously, when she had given birth to the mummified fetus.

I next saw the patient on the fifth of May, when she exhibited symptoms of labor, viz., a show of blood and imperfect uterine contractions. On physical examination, I detected a small fetus protruding from the os, which I succeeded in delivering without difficulty and which I present to you to-night. The placenta was not within reach. It was delivered spontaneously on Sunday night, the night after the birth of the fetus. You will observe that it is quite small and desiccated, in parts carnified, and has an appearance as though fatty degeneration had occurred in its substance.

From the history of the case I infer that the fetus must have been blighted between the third and fourth months, and remained innocuous in the uterus for nearly four months longer before nature expelled it. No syphilitic taint is present in either parent.

The fetus is dry and wrinkled, the skin close to the muscles, the sub-areolar tissue has disappeared by absorption; the umbilical cord was slender and long. No trace of putrefaction was present.

A peculiar and interesting feature in connection with the case is the recurrence of this phenomenon in the same patient. Whether she is predisposed to this form of fetal degeneration is a question which suggests itself.

This arrest of development and mummification of the fetus and its subsequent retention in utero for many weeks and months, and at times even beyond full term, happens more frequently in

twin or multiple pregnancy. Often one fetus becomes the victim to this perversion of nutrition; one fetus maturing normally, the other mummifying. But in single pregnancies it occurs very infrequently.

DR. McLEAN called to mind a case he had presented before the Society a year ago. It was a twin pregnancy; one fetus had mummified, the other child was normal, weighing twelve pounds.

#### VESICAL CALCULUS WITH A COTTON NUCLEUS.

DR. H. MARION SIMS presented a specimen with the following history: One day last week I was called in consultation to a patient about 40 years of age, a sufferer from chronic cystitis for three years past. The patient was then under the treatment of a lady physician, who had washed out the bladder three or four times a day to overcome the disagreeable odor. On arrival I explored the bladder with the sound and detected a stone which I proposed to remove at once, and the patient consented. The stone was crushed without the use of anesthetics because the patient had eaten a hearty dinner and I did not dare to give ether. She bore the operation very bravely. After the stone had been crushed and taken out piecemeal, I introduced the forceps and found a soft substance which I thought was a sloughing polypus. I cut off one end of it with scissors and found it was nothing but a piece of cotton coated with a phosphatic deposit which had formed the nucleus of the stone. I do not know how the cotton got into the bladder. The patient had been under treatment in a hospital for cystitis, and she remembered that the bladder was swabbed out. It may be that the cotton came from the probang and was lost in the bladder. Since the operation the patient has done well.

#### MULTIPLE FIBROID OF THE UTERUS; SUPRA-PUBIC HYSTERECTOMY.

DR. A. P. DUDLEY reported the following case, in connection with the specimen:

Miss B., aged 42, single, matured at 15, regular after until the past winter, the flow lasting three to four days, amount about normal. She complained of pain in the back and across the abdomen. Had never suffered from menorrhagia or metrorrhagia. Vaginal discharges had been slight, and vesical symptoms those of occasional slight suppression. Locomotion was painful through the abdomen. Bowels regular. Had never had local treatment. The abdomen was enlarged, and she had been told that this was due to an ovarian tumor.

Physical examination revealed a large, irregular growth occupying the pelvis and extending into the abdomen as high as the navel. It could be readily made out as composed of several segments, the larger and most movable occupying the left side of the pelvis, while the smaller and apparently sessile growth was situ-



ated behind and to the right of the uterus. The uterus itself was lifted high in the pelvis, so much so that the os was above the pubis and apparently directly under the linea alba. A diagnosis of multiple fibroid of the uterus was made and the patient's condition explained to her. The treatment proposed was the use of electricity for a time, or removal by abdominal section. She chose the latter, and entered St. Elizabeth's hospital on April 30th. On May 3d, the operation was undertaken. An incision two inches long was made and the growth examined: it proved to be a multiple fibroid of the uterus, as previously stated, and the ovaries were looked for. The left one could be readily brought up, but the right could not be; it lay deep in the pelvis, behind the sessile growth. The incision was therefore enlarged and the growth brought up with the intention of removing it by supra-vaginal hysterectomy. It was then found that a large growth extended off from the posterior part of the cervix under the peritoneum of the cul-de-sac, and filled the whole post-uterine portion of the pelvis and rested upon the rectum. It gave to the touch a sensation very similar to the growth which we had lifted through the abdominal incision, and I expressed the opinion that the growth was a fibrous diverticulum shooting off from the cervix beneath the peritoneum. Considering it such, and feeling that to attempt to remove it together with the other mass would necessitate a long incision through the peritoneum of the cul-de-sac, and would prolong and complicate the operation seriously, while, if allowed to remain, it would do no material damage, and after a time absorb, I made the pedicle above it and allowed it to remain. The pedicle was treated after a method lately described by Dr. Polk before this Society—a modification of Bantock's—that is, the peritoneum was stripped off from a portion of the uterus and growth to make a sac within which the pedicle could be ligated, inclosed, and dropped back, while the sac-wall, made from the uterine peritoneum, was stitched to the abdominal incision, making a cup-shaped cavity within which the ligatures and stump lay, and although intra-abdominal were still extra-peritoneal. In this case I used the ligature for the pedicle and not the Koeberlé. The patient rallied promptly from the shock and passed a comfortable night, and continued to do well, although it was noticed that the growth allowed to remain in the pelvis had apparently increased in size; no tenderness, however, existed around it. The patient had some elevation of temperature and pulse, although not more than could be accounted for by a slight flush around the sac-wall. There was no evidence of peritonitis or septicemia. On the morning of the fourth day she showed a slight cyanotic, purplish condition of the skin, and the pulse and temperature ran up to 120 and 104° respectively. She had the appearance of one suffering from concealed hemorrhage, but there was no positive evidence. The pulse and temperature not responding to antipyretics, I concluded to examine the stump, removed the dressings,

and swept my finger around the stump within the sac. No bad odor was emitted, and but slight bleeding followed. This was at 2 P.M. During the third night and fourth day, efforts had been made to move the bowels, but success had not attended, although there was no tympanites or tenderness. The pressure of the growth in the pelvis seemed to act as a ball valve upon the rectum and to cut off all desire for movement, as well as to prevent the free passage of feces, though a rectal tube could be readily passed by it.

At 6 P.M. on the fourth day I received word that the patient was bleeding from the stump. This was readily checked by the patient's brother who was a physician, assisted by the nurse. On my arrival at the hospital, at about 7 P.M., I found the patient in a dazed condition, with the pulse fluttering at the wrist at 170. Repeated hypodermic injections of brandy were given, with large doses of ammonia by the mouth, but she would not respond in the least, and died at 8:30 of what seemed to be concealed hemorrhage.

Consent was at once given by the brother to examine the abdominal cavity, which was done half an hour after death. The peritoneum had united throughout, as well as the outer portions of the wound, with the exception of one or two points in the cellular tissue which showed evidence of commencing formation of pus, just under the skin. There was no evidence whatever of peritonitis, in fact the intestines and the peritoneum were not even flushed, except directly around a small portion of the pedicle-sac. There was also no evidence of septicemia. The pedicle was examined and found in position and without bad odor. Upon examining the growth beneath the peritoneum, it was found to have increased to nearly twice the size that it was at the time of the operation, and had more the feel of fluctuation. An incision was made through the peritoneum, when fresh dark blood escaped to the quantity of two or three ounces, and we thought the ligatures must have cut a vessel and allowed bleeding into what I had supposed at the time of the operation was a fibroid; but upon removal and closer examination of the latter it proved not to be a fibroid, but was apparently cellular and filled with blood. Feeling a deep interest and desire to know just what it was that had caused my patient's death, I submitted the growth to Dr. Heitzmann for an examination and opinion. The following is the result which I have copied from his report:

*Dr. Heitzmann's Report.*

The wall of the cavity, found filled with liquid blood, consists of three pretty distinctly marked layers. The outermost layer is composed of a dense, fibrous connective tissue, being of a thickness of about two millimetres. It is scantily supplied with blood-vessels.

The middle layer is the broadest, nearly four millimetres thick. It is built up of a delicate, fibrous connective tissue, in reticular

arrangement, therefore transitional into myomatous tissue. This layer abounds in capillary and venous blood-vessels, the more the nearer the inner surface of the cavity. In the latter portion the blood-vessels are very large, of a venous character, and so close together that the tissues exhibit the features of a *cavernous angioma*. Even with the naked eye groups of cavities can be seen, which prove to be of a venous cavernous character. This layer is impregnated with blood, which occupies a great many interstices between the bundles of the fibrous connective tissue. It is therefore in a condition of so-called hemorrhagic infarctus. This infarctus is the more pronounced the nearer the inner surface of the cyst-wall, where the brown discoloration is conspicuous to the naked eye. The innermost layer forms a thin film only, composed of delicate bundles of fibrous connective tissue, similar in appearance to the *arachnoid*. Debris of lining epithelia could be seen upon this layer.

From this description it follows that the tumor is a cyst, the walls of which are partly made up of fibrous and partly of myomatous tissue, and are abundantly supplied with blood-vessels in the inner layers, almost to the structure of cavernous angioma. The rupture of the venous cavities had caused the hemorrhage, which again was in part interstitial, an *infarctus*, and in part free into the cyst cavity. The infarctus had certainly increased the thickness of the cyst-wall, and also its consistency. The cyst very probably was congenital, and filled with a serous liquid before the hemorrhage had taken place.

Yours truly,

DR. C. HEITZMANN.

Apparently the hemorrhage had been going on for some time, for the woman showed evidence of it, and undoubtedly it was due to traction during the operation. To have removed this growth with the other tumors would have unduly prolonged the operation, and therefore it was thought safer to leave it. The condition is quite rare; this is the fourth recorded case of cavernoma associated with fibroid tumor of the uterus. I would like to ask the members of the Society whether I was right in acting as I did.

DR. SIMS thought that Dr. Dudley had acted correctly and that he was perfectly justified in leaving the growth after the operation had consumed such a length of time. He himself had never met with the same difficulty. He remembered one case he had had three years ago, where the uterus was the centre of nine or ten distinct fibroid tumors. In this case he performed supra-pubic hysterectomy, running skewers through underneath the pedicle. The patient made a happy recovery, but there was no such complication as Dr. Dudley had in his case.

DR. ABBOTT said he would ask Dr. Dudley to answer his own question.

DR. DUDLEY.—I thought I had given the patient the best chance. I expected to treat the tumor through the vagina, it had dropped so low. At the time I operated it was high, after removal it settled in the cavity and acted as a ball valve on the rectum. I did not imagine that I had a blood tumor, I never had seen anything of the kind before. Once before when I removed the uterus I left a fibroid growth similarly extending towards the bladder, I operated in the same way, dropped the pedicle back and left a

small fibroid extending off from the cervical stump towards the bladder. I lost that patient from abscess in the omentum. I felt in this case that the condition was similar, and the patient would have recovered had it not been for that growth. There was no tenderness or tympanites, nothing but this gradual increase of that growth, and the evidence that the patient was losing blood somewhere.

DR. HUNTER.—Why did the operation take so long?

DR. DUDLEY.—The pedicle was made up of so many portions, and it was so difficult to get the sac out of the uterus without perforating the latter. It took about two hours and twenty minutes.

#### COMPRESSION FORCEPS.

DR. W. T. LUSK exhibited the compression forceps for use in vaginal hysterectomy he had mentioned at a previous meeting. One was of the Richelot pattern, and one the modification of Doléris, which was very similar to that shown by Dr. Cleveland at the last meeting. Dr. Doléris had told the speaker that he had operated three times with it, the operation only lasting twenty minutes.

#### DEATH FROM ACUTE SALPINGITIS, PERITONITIS, AND ENDOMETRITIS, DUE TO THE USE OF THE SOUND.

DR. W. M. POLK presented the specimens and related the following case:

I performed Alexander's operation six weeks ago, and three weeks and five days after the operation, on testing the position of the uterus, I used a sound which had lost its nickel-plating and should not have been used in the case. The patient immediately began to develop symptoms which terminated in her death. The operation, so far from having anything to do with her death, was not followed by any reaction whatever. This can be seen on the temperature chart (exhibited), the temperature commencing to rise immediately after the introduction of the sound until the time of death. The sound was introduced on Friday, and the patient died about six days afterwards. At the autopsy the evidences of salpingitis and peritonitis were distinct, but there was absolutely no evidence of any inflammatory reaction in the field of the operation, at least to the naked eye. It was distinctly noticed how well adhesion had taken place; union was perfect. The tract from the external ring down to the cornua of the uterus was found in an absolutely perfect condition. Union was so strong that it was torn with difficulty. This shows that after six weeks union is sufficiently strong to bear considerable strain.

DR. COE.—Was there any parametritis?

DR. POLK.—I have not seen a case of parametritis in three years; I have never found these cases presenting anything more than peritonitis. Formerly every one of these cases was called parametritis.

DR. LUSK.—We ought to remember that in a great many cases these indurations disappear. It would be wise to exercise a little

patience, such as we used to do three to five years ago, instead of resorting to removal of the appendages. I only say this because I am not sure that the operation is not associated with a great amount of danger to the woman; the mental condition of many of these patients seems to be seriously injured by the operation, they are not the same persons as before. My attention has been drawn by physicians in insane pavilions to patients who had had tubes and ovaries removed.

DR. POLK.—I did not intend to bring forward the point of operation versus palliation. I do not believe Dr. Lusk intended to imply the incorrectness of my observations. Because I do not to-day recognize cellulitis as frequently as formerly, it does not by any means follow that I no longer find disease except in the tubes; on the contrary, I am sure I have done everything to keep the tubes. We have simply given an affection a new name: salpingitis is cellulitis.

The specimen was presented for the distinct purpose of showing that Alexander's operation had nothing to do with the death; it was due to the interference and the kind of sound I employed. I have done the operation fifty times and have had three deaths. The death in each instance was due to extraneous causes—one from insanity, the other from ether, and the third case the one presented to-night. None of them was due to the operation itself.

#### COTTON FOR TAMPONS.

DR. J. B. HUNTER presented a sample of blue cotton to be used for tampons. He had suggested to the manufacturers to make a non-absorbent cotton for that purpose. Previously he had never found anything as good as jeweler's cotton and had therefore suggested a non-absorbent cotton slightly tinted, to be known as tampon cotton.

DR. SKENE.—I recognize the advantage of the color, but I cannot at all agree with the doctor as to the use of non-absorbent for absorbent cotton. It is difficult to sterilize such cotton and its use is far more dangerous. A patient was sent to me suffering from peritonitis, and the attending physician told me the patient had had quite a number of attacks. I asked him if he had been in the habit of using the non-sterilized cotton, and being answered in the affirmative, I advised him to change the cotton and his case got well. This illustrates what often happens in practice. We have to be very careful about cotton so as to avoid sepsis. Cotton lying about in the office is dangerous to use.

DR. HUNTER explained that his cotton had been sterilized.

DR. PARTRIDGE coincided with Dr. Hunter.

DR. ABBOTT inquired if the oil abstracted in making absorbent cotton could not be reintroduced afterwards.

DR. HUNTER replied that this had been done with this cotton.

DR. MALCOLM McLEAN read a paper entitled :

#### SOME REMARKS ON THE DUTIES OF THE MODERN OBSTETRICIAN.

In looking back over an experience of nearly a score of years of active practice among women, I have been struck by two very significant facts. First, that a vast majority of the cases of dis-



ease peculiar to the female sex have had their origin in the process of parturition ; and second, that almost every practitioner of medicine stands ready to assume the responsibilities of the obstetrician, no matter how very modest may be his attainments in every other branch of medicine.

It would seem as though the duties of the obstetrician were so simple, so free from difficulties, that the subject were not worthy of any very serious or systematic contemplation.

Indeed, the practice of many is such that it is evident that no great intellectual operation has put the stamp of its dignified results upon the work accomplished. Yet, on the other hand, we see the evidence of scientific thought, of mechanical skill, of carefulness in details, in the work of a conscientious practitioner of obstetrics, that can never be mistaken for the recklessness or neglect which too often disgraces the reputation of our art.

Furthermore, it sometimes seems as though the subject of parturition is worn so threadbare that it can have no interest for the vast majority of physicians, that the process is such a perfectly natural one that it is scarcely worthy of much serious consideration in these days of laparotomy and ovarian extirpation.

How the subject sinks into contemptible insignificance when mentioned in the presence of tubal disease! How far from our earnest thought is it, while we eagerly look with suspicion upon the hapless ovary which has presumed to reveal upon its surface the vesicle which *may* one day become a cyst !

Now, granting an important place to the high attainments of modern gynecology—recognizing the magnificent advance of the last decade, trying in a modest degree to reap some of the benefits of the clearer light of to-day—we feel that there is one side of the subject of the diseases peculiar to women which does not receive its full share of thoughtful attention. I allude, of course, to the prevention of disease.

It is as much our duty to aid in preventing, as it is in curing complaints, especially those which have their origin in a process which is more or less under our direct control. It needs no argument to prove the fact that a vast number of our gynecological patients have dated all their troubles to their experiences in child-bearing.

If this is true, then we may ask, Is it not possible so to conduct our patients through the pains and perils of childbirth as to save them from many of those ills which so frequently render life miserable for years ?

Should we exclude from our lists all of the cases of subinvolution, endometritis, etc., with displacements, all lacerated cervixes, all ruptures of the perineum, rectum, etc., we should undoubtedly find that we had removed the greater portion of our gynecological practice.

If it is true that a great number of the cases just enumerated



may be prevented, then it is fair to assume that some one's obstetric work is so defective as to allow these undesirable conditions to result. That the latter deduction is a fair and reasonable one, no one, I think, will dispute.

But we must needs go further and admit that the vast number of crippled women who bear the marks, frequently of unskilful management, bear witness also to the fact that it is not only the uneducated midwife, the miserable charlatan, or the half-informed physician of meagre experience to whom they owe their ill fortune; but the responsibility must be somewhat divided with practitioners of obstetrics in good standing.

Then, too, we must admit that, if we were as scrupulously careful about the management of a case of obstetrics as we would be about the simplest operation in surgery, we would less often be called upon to combat the terrors of septicemia, less often be compelled to surrender our patient to that inexorable conqueror death.

For the reason, then, that there is unquestionably a neglect of duty in many cases, I have taken the liberty of asking your attention to this commonplace subject, begging your indulgence a few moments while I merely outline some of the real duties of an obstetrician.

In the first place, it is not only our duty to try to alleviate the pains and perils of the parturient process, to ligate the cord, and sever the connecting link between mother and child; but it becomes us to guide the mother safely and comfortably, if possible, through the period of gestation. To do our utmost to let that mother go forth from the lying-in chamber as nearly well as possible. To see that she is physically capacitated to care for her offspring, and to be fitted for all her duties in life as a wife and mother. To do this we must give attention to details from the first, and never abate our watchfulness until the woman is restored to her normal condition.

An obstetrician ought to have control of his patient several months before labor, in order that he may acquaint himself with her condition of health and with matters of importance in regard to the parturient canal, etc.

Much might be said about the blood condition of the mother; but I shall only allude to the important evidences given by the kidneys. The urine should be carefully watched, and it is well to let no more than two or three weeks pass between the examinations. In case of finding albumin or casts, we should keep a regular account of the changes taking place every few days; and in the event of uremic symptoms developing, we should act promptly and apply all our resources toward preventing the disasters of eclampsia.

And in speaking of eclampsia it should be borne in mind that there is a rare form of eclampsia which we meet with in pregnant

women—unassociated with any renal complication—which is really an epilepsy originating or developing in the pregnant state, and which will fix itself upon the patient with all the dreadful characteristics of that disease unless it is promptly stamped out; and, indeed, often in spite of our most thorough treatment.

In speaking of the food of the pregnant woman, I only wish to allude to the importance of using nourishing, digestible foods, and especially the ingestion of foods containing a fair amount of phosphates of lime, etc., to supply the osseous formations in the fetus, and at the same time, to some extent, to prevent the unusual decay of the mother's teeth.

The clothing should be regulated sufficiently to avoid undue pressure about the waist or abdomen, as this is sometimes very injurious.

The stomach and bowels should be kept in good working order.

The nausea of pregnancy is sometimes so distressing and persistent as to baffle all internal remedies.

The gentle dilatation of the external os uteri by the finger has been tried, and reported successful in a number of instances; and I have myself relieved some obstinate cases by this procedure. But I have been impressed with the fact that the mere lifting up of the heavy uterus very often gives the same relief; and I am inclined to believe that it is the *lifting up of the organ* by the finger, and not necessarily the dilatation of the os, which gives the relief in the method alluded to.

Where ordinary internal remedies, therefore, fail to give relief, the patient should be put in the Sims' position, and with two fingers carried gently up to the post-cervical pouch, the uterus and its appendages should be lifted up to the pelvic brim.

In primiparæ, the pelvic measurements should be ascertained, if possible, as early as the seventh month of gestation. If this were insisted upon generally by obstetricians, we should hear less of the frightful cases of labor at term with deformed pelvis. And this, I maintain, is one of the specific duties of an obstetrician which is very frequently neglected.

A very skilled obstetrician, a few years ago, reported a case where he and several others had in vain striven to deliver with the long forceps, and when the mother's condition began to look desperate, they found a great shelf of bone filling almost one-half of the superior strait! No well-informed practitioner is excusable for being caught in such a plight in his own case.

The patient having come safely to term, she should be confined in a room well supplied with light and air—in a bed of good, smooth, firm material, well protected with rubber sheeting, and a perfectly clean blanket or other warm quilt to catch the discharges.

The furniture of the room should be of the simplest kind, and I

am always well pleased when I can dispense with carpets and heavy curtains, upholstered furniture, etc.

The obstetrician and nurse should be faultlessly clean—in person and clothing—the accoucheur himself sparing no pains to render his hands as aseptic as possible. For this purpose the use of a few drops of spirits of turpentine well rubbed into the hands is very efficacious. I prefer to follow the turpentine with a little 95% alcohol before washing with soap and water.

The examinations of a patient should be frequent enough to ascertain the position of the child and the progress of the case; but not so often as to give unnecessary annoyance.

I believe, however, that in certain cases where the “bag of waters” does not assist materially in the dilatation, gentle and intelligent digital expansion of the cervix is productive of good in shortening a tedious first stage.

In a proportion of cases it will be found that the membranes are tough and inelastic, and are acting as an obstruction after dilatation has taken place. In such an event it is best to rupture the membranes and allow the second stage to proceed.

In examining for the position of the child, it is important to remember that it is often impossible to diagnose the position of the head by the mere digital exploration of the fontanelles and sutures. Especially in delayed cases it is important to assure ourselves by the introduction of enough of the hand to enable us to feel an ear of the child. This is another duty too often overlooked in cases where operations with the forceps are about to be undertaken.

When the head is about passing the inferior strait, chloroform should be administered in small quantities well mixed with air. This anesthetic not only mitigates the agonies of the mother, but also controls the expulsive efforts, and relaxes the tense perineum so as to add safety to the latter structure. I cannot see any good reason for substituting ether for chloroform in ordinary obstetric operations, as the latter anesthetic is very safe in these cases.

Cerebral anemia is almost impossible while labor is in progress, and I believe it is undoubtedly owing to the straining efforts causing great fulness of the cerebral vessels that we have such immunity from accident in chloroform anesthesia in parturition. In normal cases the anesthetic should never be given to the stage of unconsciousness.

The question of “supporting the perineum” has interested the profession for many years; and there are methods innumerable by which we are directed to preserve this vulnerable part.

After a great deal of study of this subject, I am convinced that any so-called support which is directed to the perineum itself is worse than useless. It merely increases the danger of laceration.

Pressure upon the presenting part alone is not sufficient—though it may assist by delaying the moment of maximum strain.

I am satisfied that we can do the most good by making our pres-

sure at a point on either side of the medium line *posterior to the anus* near the coccyx and in such a direction that not only the presenting part is crowded toward the pubic arch, but the whole group of perineal tissues is dragged forwards so as to relax them to a degree. This pressure is best accomplished with the fingers. Furthermore the shoulder or elbow of the child is exceedingly likely to plow through a part which has escaped the head pressure; and great care should be taken in delivering these parts.

Ergot should be given only when we are assured that delivery will have been completed within fifteen or twenty minutes after its administration.

The placenta and membranes should be cast off within thirty minutes as a rule, and Credé's method seems to be efficient. I do not share the opinion of those who think it a danger or a crime to insert the fingers and gently coax the afterbirth from the uterine mouth. A clean hand will do no harm, if intelligently used. The placenta, etc., should not be dropped into a filthy or even doubtful chamber vessel; but it should be deposited in a perfectly clean bowl, and carefully examined, to see that no portion has remained inside the mother. This is another duty very often neglected, and no man does his full duty who does not assure himself that the third stage of labor has been properly terminated. Gentle but steady compression of the uterine globe for half an hour after labor will prevent clots forming, and reduce the danger of hemorrhage, and the discomforts of "after-pains."

The funis ordinarily should not be tied nor severed until pulsation has very much decreased, as the delay allows the child to balance the circulation so as to save to itself considerable quantity of blood.

The obstetric binder or bandage is a comfort to the mother and should be applied smoothly from the trochanters up to the waist. No compress should be used.

In case of perineal laceration having occurred, we should at once proceed to repair it. It will be observed that, immediately after rupture of these parts has taken place, the two sides retain their apposition almost perfectly; but some hours later, as the swelling subsides, as the muscular layers regain their contractility, the gap is widened, and it is no longer possible to bring the parts into exact coaptation. This is, therefore, one important reason why the operation for repair should be done at once. It is best to insert one or two (one is generally sufficient) sutures of silk deeply through the middle or upper third of the laceration, bringing the parts gently together. Even in complete lacerations through the rectal sphincter I have secured excellent results. The neglect of this duty by an obstetrician is unpardonable, for he not only by his neglect subjects the patient to the dangers of septic absorption, but he leaves her in a condition which will ultimately bring her to the operating table for a more serious and expensive treatment.

I am not prepared to say that we should look for and treat immediately the cervical lacerations unless we have a local hemorrhage which demands attention.

But this I urge as a duty devolving on us all. We should notify our patient that within a couple of months we will make a final examination of the uterus and determine whether there are any unhealed wounds. This practice I have followed for years, and I have the satisfaction of knowing that when I dismiss my case as *well*, she does not fall into the hands of the surgeon for repairs required on account of my neglect.

Vaginal douches are useful where there is much sanguineous discharge, especially if vaginal clots are suspected. But if cleanliness has characterized all the management of the labor, vaginal antiseptic douching may be omitted.

The vulva may be protected by a pad of antiseptic gauze or other absorbent tissue, and the bed should be kept scrupulously clean from all blood stains or other organic material which will become putrescent.

Finally the obstetrician should see that the child is regularly nursed, and that the mammae are cleansed after each nursing. He should visit his patient regularly for at least ten days and ascertain the condition of the abdomen, the breasts, etc., and see to many details which are too often entrusted to an incompetent nurse.

Having done his duty thus in the capacity of obstetrician, he is entitled to take an honored part in the great and beneficent work of the gynecologist's art.

DR. LUSK said he indorsed every point made in the paper and had no new one to add.

DR. POLK.—Dr. McLean has presented the subject very precisely, just as Dr. Lusk and other teachers have been in the habit of doing in their classes, but that fact does not make it any less necessary to be dwelt upon in other places than the lecture rooms of the colleges. I would like to say one thing in regard to the question as to the saving of the perineum. It has always occurred to me that the real difficulty in the way, so far as rupturing the perineum is concerned, lies in the manner in which we permit the head to come through the vulvar orifice. If the child has a long neck and the occiput does not become impacted, it will always escape, the sub-occipito-frontal and the sub-occipito-mental diameters engaging; in certain cases, if the child's neck is short and the shoulders broad, and the occiput has not escaped beneath the arch of the pubis, and the woman's tissue is brittle, she will be pretty apt to have a tear. Women differ very much as to the fragility of these structures. It has, therefore, occurred to me that an essential point in preventing rupture is that we must be sure that the occiput has escaped beneath the arch of the pubis. In addition to other means, we can regulate this by pressure on the fundus of the uterus.

DR. LUSK.—I think that if a woman has a healthy vulva and no inflammatory condition, it is always possible to guide the head through it without causing laceration of the perineum. I like the

method Dr. McLean has mentioned—that is the main thing, the slow descent of the head. By preventing the head from coming out quickly, the parts will slowly dilate, the relaxation proceeds more and more, and under these circumstances we need not have a ruptured perineum. Sometimes I feel cold chills creeping over my back when I see the perineum sacrificed because of the hurry in getting the head out. This may save a little time then, but it makes an immense difference afterwards. As to Credé's method, I would make some defence. I do not think in a good many years I have passed my hands up the vagina. It is always possible within ten to fifteen minutes to get the uterus to contract. It is good to force out the placenta during the time when the uterus is contracted, but wait until the uterus is relaxed to remove the membranes, otherwise a portion of the latter will be torn off.

DR. PARTRIDGE.—The membranes should come out when the uterus is relaxed; twisting is much more apt to leave membranes behind than to prevent their retention. Almost every book advises this twisting of the membranes, but it should never be done. My custom immediately after the birth of the child is to suggest to the nurse to take the child into another room and wash it; she wants to remain and attend to the patient, but this gets rid of her and insures my uninterrupted care, while it withdraws any friends who insist on remaining. I sit by the patient all the time; some women need the steadying the doctor only can give.

DR. FRUITNIGHT.—When portions of membranes are left behind, I recur to the old way and introduce the hand.

DR. SKENE.—I cannot discuss the paper; it is simply an abridged edition of the modern text-books on obstetrics. There are only one or two points to be touched upon. The doctor emphatically stated that a laceration of the perineum should be immediately repaired. By that he means that sutures should be employed. This subject has been discussed for years. I believe in doing so under favorable conditions. Unless one is very expert in the use of sutures, he may do far more harm than good, and unless he has had much experience, he will get non-union. It is true, the wound, after a short time, will gape if the pelvic floor is allowed to remain in a relaxed condition; but we can coaptate the edges by supporting the pelvic floor. There is tissue enough at all times to fill the space if it is not allowed to gape. This can be done by support quite as well without sutures as with. In the support you give the pelvic floor you get the additional advantage that, by lifting the floor and keeping it so, you give the muscles a chance to recuperate from the most unfortunate injury—the subcutaneous laceration of the muscles. Sutures will not always do as well as the support—if the doctor will allow us to use support. I agree to all the rest. Partial or complete paralysis of the muscles is restored in twenty-four hours. To prevent sagging of the pelvic floor I use small compresses and a bandage. I am quite sure there is more in this fact than is usually admitted.

DR. MUNDE.—In the first place, I do not think that laceration of the perineum can always be prevented, as I understood one of the gentlemen to say; at least, that is my experience. It has happened to me without being able to prevent it. Only three days ago I was called by Dr. Purdy to a case; forceps were applied, and the perineum was not torn when the chin and other parts passed. Afterwards I found it torn, and when I introduced my finger into the vagina I found why. The patient was a primipara, the vagina had sus-



tained quite a deep laceration, which extended through the perineum, and it was not the forceps that did it, but the extension of the child's head. The occiput was well under the symphysis when I removed the forceps. As regards "bolstering up" the perineum, it seems to me like going back to old times. If the perineum is lacerated, I pass a silk suture by means of a large curved needle from the upper margin of the wound on one side deeply around in the recto-vaginal septum, and out at the other margin. Then when this suture is tied two or three superficial sutures may be needed. I am amply satisfied with this mode. As regards holding the hand on the uterus after delivery, the mistake lies in hurrying the expression of the placenta. It makes little difference whether you twist the membranes or not, provided you do not twist them *off*. Keep your hand on the uterus for an hour, making gentle friction, and you will not have hemorrhage.

DR. DUDLEY.—I have tried every method spoken of, and rupture has happened, it seems to me, before the child was delivered. I use catgut, and keep the patient in Sims' position without any knowledge on her part that there has been any laceration. The nurse helps me in stitching in Sims' position, which I find very advantageous. Blood readily escapes from the wound, and the stitching is done from the upper angle of the tear down. I have been able to sew the tear in five minutes.

DR. BOLDT.—About laceration of the cervix—if it is possible for me to see the patient again, if she will allow me to see her about six weeks after confinement, I follow a very easy method, without trachelorrhaphy, by simply taking a narrow knife and scraping the torn edges of the cervix. At that time after delivery there is tissue which can be readily united with catgut sutures, and the cervix restored to its natural condition again. We thus prevent later operation on the cervix. About six to eight weeks after confinement I have been able to see where the laceration of the cervix has occurred. There is to be no cutting of tissue at all, merely denuding the edges and bringing them together.

DR. MCLEAN.—I should perhaps apologize for having brought the subject before this Society, were it not for the fact that in practice the text-books do not seem to be followed. I meet many gentlemen in obstetric cases, and my experience leads me to believe that the great majority do not seem to follow the rules. For that reason, I read this paper. As to the point made by Dr. Skene, whoever can apply mechanical support to the perineum ought to be able to apply sutures. Whoever is unable to apply sutures ought not to be considered competent even to tie the funis.

DR. JACOBS.—I would like to ask Dr. Lusk if he would go on record as having no laceration of the perineum in his practice?

DR. LUSK.—It is unnecessary, if the perineum is in a healthy condition. I have had cases where the perineum was torn because I was in a hurry. When I am in no hurry I never have laceration of the perineum.

#### CENTRAL RUPTURE OF THE PERINEUM.

DR. COE reported the following case: On October 9th the resident physician at the Infant Asylum, Dr. Kate Parker, sent for him to see a patient just delivered, who had a peculiar laceration of the perineum. The woman was a healthy primipara, *æt.* 23, whose pelvis was of normal dimensions. Her labor had been

entirely normal, the first stage lasting eleven and a quarter hours, while the second was completed in two. The head had been distending the perineum for about half an hour without making any progress towards the pubic arch. Recognizing the fact that it failed to extend, the attendant introduced her finger into the rectum, as she thought, in order to assist the movement. She was surprised to find that it entered the child's mouth, and naturally inferred that there was a perforation of the recto-vaginal septum. She made a free incision through the fourchette, extended the head (which was of the average size), and delivered it promptly. On examining the patient, Dr. Coe found a crescentic opening in the perineum immediately in front of, and partly surrounding, the sphincter ani. A bridge of perineal tissue, three inches wide, existed between the rent and the artificial wound through the anterior portion of the perineal body. The posterior vaginal wall was as badly contused and lacerated as after prolonged use of the forceps. A careful examination of the sphincter showed that all except a few external fibres were intact. With the assistance of Dr. J. C. Thomas, in whose service the patient belonged, the reporter proceeded to close the wound in the usual manner, first dividing the intact portion of the perineal body, in order to gain a clear idea of the extent of the injury. Eight or ten wire sutures were introduced. It healed perfectly, with the exception of a small spot just below the vulva. There was also an extensive laceration of the cervix.

The speaker alluded briefly to the practical points in the case, which was the second that he had seen within three years. These were:

1. The fact that the extensive laceration of the vulvo-vaginal tissues might be attributed to abnormal softness due to syphilis, of which there was an indefinite history.

2. The perineum was of unusual breadth (five inches from the border of the sphincter to the fourchette), and was greatly thinned; the pubic arch was narrow, the vulvar cleft was unusually small, and the head failed to extend. The expulsive pains, accordingly, acted directly in the axis of the superior strait, and the usual resultant was wanting.

3. If assistance had not been rendered promptly, it is probable that the child would have been born through the perineum, without laceration of the sphincter or fourchette.

4. The prevention of this accident lay in proper support of the perineum and an early resort to the forceps, or to episiotomy, with forcible extension applied through the rectum.

5. The operative treatment consisted in conversion of the perforation into an ordinary laceration of the perineum, by dividing the bridge of intact tissue and repairing the wound in the usual manner. If one closed the central tear alone, he would remain in ignorance of the condition of the deeper parts, and was apt to have

a fistulous opening because the raw surfaces were not brought into perfect coaptation.

It should have been mentioned that the patient was delivered on the back. Had the perineum been supported according to the Vienna method, with the patient lying on her side and the entire space between the anal orifice and the fourchette exposed to view, the accident might probably have been foreseen and prevented by a prompt resort to episiotomy or to the forceps. In the first case seen by the speaker he was supporting the perineum in this manner when the head of the child was suddenly seen in its centre, the perforation being perfectly round and not larger than a ten-cent piece. By performing episiotomy and extending the head, by pressure through the rectum, the child was delivered without further enlargement of the central perforation. The speaker had mentioned these cases, because he had learned, by questioning those whose experience had been much more extended than his own, that the accident was somewhat rare. Charpentier's paper (*Archives de Tocologie*, 2, 1885) presented an analysis of 56 cases, collected from various sources. In 38 the child was born through the perineum, the lesion being caused in 31 by the head, in 7 by a presenting limb. In 17 cases the child was delivered in the natural way, after the central tear had taken place. The wound was not always a true perforation, as in the first case. The conditions favoring this accident, according to that writer, were: unusual height of the symphysis pubis, with consequent malposition of the vulvar cleft; 2, excessive breadth and distensibility of the perineum; 3, exaggerated intensity and irregularity of the uterine contractions. Faulty inclination of the pelvis, narrowness of the vulva, resistance of the perineum, etc., were only accessory factors. When the accident was imminent, the perineum should be supported and the progress of the head retarded, while delivery should be rapidly effected by extension with one finger in the anus or by the forceps. As soon as the perforation occurred, the bridge of intact tissue between the wound and the vulvar opening should be at once divided with scissors, in order to facilitate delivery and to save the sphincter. Of 36 cases in which the child was born through the vulva, 20 were treated without operation, healing occurring spontaneously in 12 without the formation of a fistula; in 11 the wound was sutured, 6 healing without fistulæ. Charpentier recommended that the tear be closed directly with catgut; if it did not heal, then the bridge between the tear and the fourchette should be divided, and the wound should again be closed with catgut. Dr. Coe believed that it was better to divide the bridge at once, as he had done, for the reasons stated, and to use stout silk or silver wire.

## TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

*Stated Meeting, February 17th, 1888.*

DR. D. WEBSTER PRENTISS, *Vice-President, in the Chair.*

DR. HENRY D. FRY presented a patient with mitral stenosis, with a pre-systolic murmur; one of the cases referred to in his paper.

Dr. Fry then read the paper of the evening:

### OBSERVATIONS ON CHILD-BEARING COMPLICATED BY CHRONIC DISEASE OF THE HEART.<sup>1</sup>

DR. C. E. HAGNER, in opening the discussion, said that Dr. Fry had so completely reviewed the literature of the subject that there remained but little to add to the paper. He had read MacDonald's work with the hope that he would find something to say in the discussion; but the essayist read the very places he had marked, and he found his points vanishing. There was one point, however, that the writer had overlooked, viz.: Prophylaxis. The important question for physicians to determine is whether we should allow women with chronic disease of the heart to marry and thereby run the risk of pregnancy. He quoted from MacDonald to show that marriage should be discouraged in those who have chronic disease of the heart.<sup>2</sup>

According to Bamberger, some, or even all, cases of Bright's disease originate in disease of the heart; hence the importance of examining the heart closely and not paying all the attention to the kidneys. He agreed with him in not giving chloroform in cases of heart disease, but ether, as the latter was less apt to embarrass cardiac action.

DR. W. W. JOHNSTON thought a point of interest in the first case reported by Dr. Fry might be dwelt upon. This was the extreme illness and danger of the first case in her first labor. The woman was almost in a sitting position during the entire labor and was brought to the edge of the bed and delivered with the forceps in that position. There was excessive cyanosis and edema of both lungs and her condition was critical throughout the labor.

DR. KING.—The particular symptom in these cases seemed to be an inability to lie in any other position than on the right side. Then there must be some way of accounting for this symptom, and it had occurred to him that it might possibly be due to incomplete closure of the foramen ovale. In children with patency of the foramen ovale they usually lie on the right side. Dr. Fry had made his paper so very complete that there was but little left for the discussion.

<sup>1</sup> See Original Articles in this number.

<sup>2</sup> Especially mitral stenosis or aortic obstruction.

DR. BUSEY had derived great pleasure from the manner in which Dr. Fry had treated the subject. In the management of labors complicated with heart disease, he thought that, hereafter, the members would refer with pleasure to Dr. Fry's cases.

DR. W. W. JOHNSTON.—The relation of heart to kidney disease is very important. We know that renal disease does not advance far before we find hypertrophy of the heart. Heart disease may be developed by successive pregnancies and may not be due to inflammatory processes, but to excessive work thrown on the heart. Fatigue, hard work, and over-exercise predispose to heart disease, hence its frequency in soldiers, miners, and young girls who dance a great deal. In pregnancy, in addition to the extra work entailed on the heart, there was the renal affection and its effects on the cardiac muscle. Now these were just the conditions to develop heart disease.

DR. FRY.—The question of marriage was an important one, and he thought every physician should advise women with chronic disease of the heart not to marry. Lactation in such cases is another important point. Mothers who have cardiac disease should not nurse their children, because nursing causes a strain on the left ventricle and prevents involution of the hypertrophied heart. It is singular that there are so very few cases of albuminuria in these cases of heart disease complicating labor. Did Dr. Johnston attend the patient with diphtheria in the spring of 1879? He thought the cardiac disease developed after the diphtheria.

DR. JOHNSTON had attended her for heart disease before her marriage, but did not remember the attack of diphtheria.

---

*Stated Meeting, March 2d, 1888.*

*The President, DR. S. C. BUSEY, in the Chair.*

DR. LACHLAN TYLER read the paper of the evening:

#### NOTES ON MEASLES.<sup>1</sup>

DR. G. B. HARRISON, called on to open discussion, was glad the subject had been selected; both on account of its intrinsic interest and because the current epidemic is instructive.

Those of us who remember the war know how dangerous this exanthem is, under *a-hygienic circumstances*. He cited a command in the Confederate army, *decimated* (by exposure, during convalescence, to inclement weather, on the deck of a steamer). g

Dr. Tyler's paper deals chiefly with personal experiences during the present epidemic and cannot well be criticised; moreover, his few summarized conclusions accord with the experience of Dr. H

*Rubeola* is a disease remarkable for anomalies in all of its stages. We can best study them in connection with its stages.

*a. In the incubation stage*—(as Dr. T. has said in reference to this epidemic) we frequently have cough for many days before the invasion period. The medical classics call this a period of *latency*, but such it does not always seem to be. Dr. H. has noticed *fever* during this interval (a fact specifically denied by some of the best text-books). He cited several cases which seem

<sup>1</sup> See Original Articles in this number.

to him to prove that the two weeks preceding eruption are not always without "recognizable departure from normal health."

Thirdly, not only are cough and other catarrhal symptoms, as well as fever, sometimes present during this time, but its very *duration* seems often to be prolonged far beyond the norm—extending, in rare cases, to nearly three weeks.

b. As to the *invasion period*, we have also exceptions to traditional rules to note.

Dr. T. has truly said that, in some instances, this stage seems to be altogether wanting. Dr. H. cited a case of typical *rubeola*, opening an endemic in a household, in which this was notably the fact.

Moreover, there are instances (examples given), in which *convulsions* usher in this period, followed by an apparent return to (or *approximation to*) health, until the appearance of typical rash, on fourth or fifth day.

Next to catarrhal symptoms, he regards the faucial appearances as the most important signs preceding the rash. They were present in the case cited by Dr. T. and materially aided diagnosis. In one instance, during this epidemic, the tone of cough, just before efflorescence, was identically that of pseudo-membranous croup.

c. During the stage of *eruption*, there are also vagaries at times. The classical *crescentic arrangement of papules* is sometimes very hard to make out. *The color* also often varies.

Dr. H. has to admit that enlargement and sensitiveness of the suboccipital glands, which he formerly claimed was pathognomonic of *Roetheln*, has been seen by him in this epidemic of *rubeola*.

d. *Desquamation* in this disease is undoubtedly complete, though usually of the "branny" sort (*furfuraceous*).

*Note.* A case in which it resembled that of scarlatina. *Safety* for the patient lies in keeping him confined, for weeks after the eruption, in an atmosphere of 70° F.

*Diagnosis* depends upon recognition of an *assemblage* of symptoms; a *majority* of those usually regarded as characteristic of *rubeola*.

No disease is like it save *Roetheln*; and that can easily be distinguished, if we remember the severity of catarrhal symptoms, the tone of cough, the faucial appearances, and the high febrile movement at acme of eruption, which are characteristic of true measles.

*Treatment* of the cough, during this epidemic, has been especially unsatisfactory. It does not at all yield to ordinary palliatives. No doubt, the symptom is due to local irritation, of a progressive character, caused by the development of an eruption on the mucous membrane of the respiratory tract, similar and akin to the efflorescence on the skin. Cool water and ice pellets give some relief. *Terebine* has given varying results. A mixture of bromides, chloral, and tinct. opii deodorata in a mucilaginous or syrupy vehicle has been chiefly relied upon.

*Phosphatic mixture* during convalescence has been employed; but, in some cases, produced hyperesthesia and had to be discontinued.

*Hot drinks* have rarely been resorted to. They seem dangerous, unless the patient can be carefully watched. Hot mustard *pediluvia* and warm baths should be used with similar precautions.



Dr. T.'s views in regard to a mercurial cathartic at the inception of the disease seem to be very sound.

*Experiences in this epidemic.*—No convulsions. A good deal of delirium (*sometimes frantic*) during invasion stage. Severe bronchial and pneumonic complications in some instances. Two or three cases of ear-discharge. One case of seeming *rubeola sine exanthemate*. Three convalescents (*severest cases*) presenting paroxysmal cough and whoop of pertussis. (Doubtless due to enlarged bronchial glands. A good deal of hemoptysis. *No fatal case so far.*

DR. FRY asked Dr. Harrison if he thought it important to pay daily visits.

DR. HARRISON said that he had spoken particularly of the patients in the asylum; those outside were not severe.

DR. FRY.—The cases that he had had were not severe nor had the epidemic seemed to be severe. He had only visited his cases every third day, as the parents had treated them. He had seen cases that day in which the mother was treating by prescriptions he had given to a neighbor's children. He had only seen the first children every third day. He thought the stage of incubation had been typical in form as well as the course of the disease, and cases frequently depart from this type. He did not think the diarrhea could be prevented by mercurials. In some epidemics we have diarrhea, but in this it seemed to be the exception. He did not think the diagnosis could be made from the cough; it depends upon the eruption. The incubation lasts until the fourth day preceding the eruption when the catarrhal symptoms make their appearance. He had had an infant, 5 months old, who had contracted the disease from its mother; in another 11 months old; and several in adults. In a bridegroom the disease was accompanied by intense headache. One case had rheumatism of the muscles of the neck one week after the disappearance of the rash. One had pneumonia a week after the measles. The conjunctivitis was about as usual.

The cough should be attributed to the eruption on the mucous membrane of the respiratory tract, but he had known the cough to persist for several weeks after the disappearance of the rash.

Otitis had been troublesome; more so than otitis following scarlatina.

Adenitis, suboccipital and submaxillary, had been noted, but was not accompanied by suppuration.

DR. HARRISON.—Dr. Fry had asked him about his visits. His cases did not require many visits as they got along very nicely. In one case diarrhea was set up during the convalescence which may have been due to the phosphatic emulsion it was taking. He thought this had been one of the severest epidemics he had seen.

DR. J. TABER JOHNSON spoke of the immediate return of the disease after it had passed through a regular, typical course. In one case the child was well of one attack and in another week had passed through a second typical seizure. In some cases the severity of the symptoms had been marked. He had found the cough the most troublesome symptom. He thought the suggestion about spraying the throat a good one. His treatment did not do much good.

DR. FRY.—The otitis in his cases was not because he had

neglected the throat. It was more important to treat the nostrils. His treatment was not different from that pursued in previous epidemics.

THE PRESIDENT thought the troublesome complications were due both to the character of the epidemic and to the peculiarity of the patient. In some of the strumous diathesis the complications are severe, while in others they are mild or entirely absent. In warm seasons the disease gives but little trouble; in cold weather it is liable to be rendered atypical by complications. In those subjected to bad hygienic conditions it is more severe than under favorable conditions. He thought the intensity of the cough and eruption were peculiar to this epidemic. In one case the cough lasted for ten days before the appearance of the eruption. The intensity of the cough is due to the extension of the eruption. Constipation had been the rule, but in one or two cases there had been diarrhea. He had not lost a case. He had kept his cases in bed upon strict diet. In former years he had been troubled a great deal from indiscretions in diet. He kept them indoors for at least two weeks after the disappearance of the disease. He had two cases of ear trouble in adults. There was an uncertainty as to the period of incubation. The symptoms of the invasion were about as usual. The fever was higher than usual. The cough generally subsides with the decline of the eruption. The desquamation was less than was to be expected from the intensity of the eruption. The eruption in the fauces was more marked than usual. One curious complication had been noted—two attacks of elongated uvula. He had not had any convulsions, but slight delirium. Two families had had measles in 1884, and he had attended them again this year. There were five cases in the two families. Great irritability of the stomach had been noted; in one vomiting persisted for twenty-four hours; in two it occurred during the acme. Convalescence in his cases had been uninterrupted.

DR. ACKER.—The epidemic at the Children's Hospital began in the colored ward, and spread rapidly. There was one death in a patient who was being treated, when she took the measles, for tuberculosis. Ten days after, it made its appearance in the white ward, and spread in two days. There was no trouble, and all recovered, except one that died from lung trouble. There had been neither convulsions, pneumonia, otitis, nor diarrhea. Had two peculiar cases in private practice. In one he did not diagnose measles until after the other children in the family had it. In another, the eruption only made its appearance on the abdomen. He had had great difficulty in subduing the cough, and had found it impossible to stop it. Desquamation was not well marked in the hospital cases.

DR. ADAMS had carefully observed this epidemic, as he was lecturing on measles at the time of the outbreak. The incubation seemed to conform to that put down in the books. He was particularly struck with the typical course of the fever. During the invasion it reached about 102 or 103°, and then declined; in about four days the temperature reached 104 or 105° just at the time of the acme of the eruption, and rapidly fell with the disappearance of the rash. Cough had been persistent, and had lasted several days after the rash had disappeared. In one case, a child, aged 2 years 4 months, pneumonia had developed before the rash. The temperature had gone as high as 106°, but was promptly reduced

with antipyrine. Desquamation had not been well marked. In most of his cases he could make out the crescentic eruption.

DR. TYLER, in closing the discussion, said: Dr. Harrison's confession about the enlargement of the suboccipital glands in German measles had placed him in a very embarrassing position. At the time Dr. Harrison made the statement he had taken issue with him, but later he had concluded that Dr. H was right. Now he intended to take the middle ground. When we have adenitis it is the extension of the inflammatory process from the skin to the glandular system. Now, Dr. Harrison is better prepared to say that it is not pathognomonic.

It took special vision to make out the crescentic form of the eruption; the crescents are exceptional; and he did not accept the statements of the authorities.

It is difficult to make the diagnosis before the appearance of the eruption.

In his cases the cough did not abate with the subsidence of the eruption, but lasted a week or ten days after its disappearance.

He had no lung complications.

The cases referred to by Dr. Johnson were not relapses; they had both types.

*Stated Meeting, March 16th, 1888.*

DR. S. C. BUSEY, *President, in the Chair.*

DR. J. R. BROMWELL read the paper of the evening:

#### PAPOID IN DIPHTHERIA.<sup>1</sup>

DR. PRENTISS, in opening the discussion, said: He had come to the Society to be instructed, and could not add much to the interest of the paper. Papoid was a new remedy, and, he thought, had been used but little in Washington; had not himself used it in diphtheria. This agent promised to be of real clinical value, and he was sorry Dr. Bromwell had not given its natural history and composition. It is the product of the South American paw-paw. The chief value of papoid is that it dissolves albumin in the presence of an alkali, while pepsin requires an acid for its action. It is, therefore, especially applicable in diphtheria, because the secretions of the throat are alkaline. The doctor deserved the thanks of the Society for reporting the cases. The paper is both interesting and valuable, because it calls attention to a new preparation. He had given papoid as an aid to digestion with apparently good results. The experience with the drug in diphtheria is not sufficient to establish its value as a curative agent. But the cases of Dr. Bromwell prove that it removes the membrane. The violent onset in the first case was different from the usual one. It usually comes on insidiously with little pain until the swelling in the neck appeared; generally there is anesthesia of the throat. Dr. Bromwell had given them the most approved treatment, stimulants, iron, potassium chlorate, and liquid food, in addition to the papoid.

In none of his cases did the membrane extend to the larynx. The prognosis is gravest where the larynx is invaded.

The forcible removal of the diphtheritic membrane is a thing of

<sup>1</sup> See Original Articles in this number.

the past. Some claim that there is one condition in which it is justifiable, viz., in nasal diphtheria. Jacobi says that in nasal diphtheria the nostrils should be bored out, if necessary, to apply the antiseptic lotions. He, however, doubted its advisability.

Trypsin, a ferment of the pancreas, is another agent for dissolving false membranes. He had tried it in a case of malignant diphtheria, but he did not see any benefit from it, and the child died of blood poisoning. Experience with the remedy shows that it possesses great solvent power. Wyeth reported a case in which a blood-clot filled the bladder after an operation for stone; after other means had failed, he injected a solution of trypsin into the bladder, which softened the clot, and it was expelled through the urethra.

The removal of the diphtheritic membrane is a minor part of the treatment. It may actually do harm by leaving an absorbent surface. Prevention of the spread of the membrane is far more important. It is the extension that makes diphtheria so very dangerous. If the membrane can be confined to the pharynx, the vast majority of cases will recover. The cases reported were like one he was then treating. His treatment consisted in the constant use of the steam atomizer with carbolic acid, iron, chlorate of potassium, milk punch, mercurial ointment to the neck, and for the first two days he had given three grains of calomel every two hours; it was mixed with sugar and placed on the tongue. He obtained free purging.

The chloride of potassium might be used instead of the chlorate. Castle, of New York, advocated it, and it had been reintroduced into the last pharmacopœia. He insisted that it was more valuable than the chlorate, and not so dangerous. The literature of the day is against the use of the potassium chlorate in large doses on account of its effects upon the kidneys.

DR. SMITH was sorry that Dr. Bromwell had not presented us with a case of laryngeal diphtheria treated with papoid. He had frequently seen cases similar to those reported by the essayist, and he never applied anything to the throat unless there was evidence of extension. He had not made an application to the throat for years in such cases. He would not accept the cases reported by Dr. Bromwell as crucial tests of the efficacy of the remedy used. They were not serious cases of diphtheria. He had seen a case the day before, in which there was a large exudate on the tonsil. He had isolated the patient, and given her the iron and potassium chlorate mixture. That day he had found her reading, and the membrane had disappeared, but there were a few patches on the throat.

In diphtheria, the membrane is not the disease, but the result of the disease. Then, why should the membrane be removed? He believed that the membrane on the throat was conservative in its nature, and it did no harm unless it formed in the larynx or the nasal fossæ.

He had a singular experience some years ago in the alley in the rear of the former residence of Dr. Prentiss. About twenty negroes had diphtheria as it spread from room to room. There was no extension of the membrane below the pharynx, and all recovered. At the same time he was attending a white child in the eastern section of the city, who was affected just like these, but it died from catarrhal pneumonia, the result of carelessness.

In the cases reported, convalescence was established in two or three days, so that they were not fair tests.

DR. PRENTISS said Dr. Smith's argument reminded him of the puritanical test for witchcraft. If one's patients get well, he will not accept the diagnosis of diphtheria; but if they happen to die, it must be diphtheria.

DR. W. W. JOHNSTON.—Dr. Smith has raised the interesting question as to the nature of diphtheria, whether it is at first local with subsequent constitutional manifestations, or whether it is constitutional with the local formation of a false membrane. He accepted the theory that it is at first local, becoming constitutional by the absorption of septic material. The clinical history of the disease points to this nature, because the septic and general manifestations are developed after the formation of the local lesion. Further proof of this theory is found in the fact that local remedies that will destroy the membrane will modify or prevent the general symptoms. He thought the cases reported by Dr. Bromwell presented phenomena characteristic of diphtheria. There was the feature of eminent contagiousness in spite of the precautions to prevent it. As soon as the membrane appeared, the solvent was applied, the aggravated symptoms disappeared, and the cases terminated successfully.

In the treatment of the disease, prophylaxis is of the most importance. Many cases are incurable. He thought it advisable to educate every child to have its throat examined, and applications made to it at regular intervals. He advised parents to teach their children to show their throats and to become accustomed to the application of remedies. Some children will refuse treatment in spite of every effort we make. Suppose we should succeed with force in such cases; the physical exhaustion that would result from the resistance of the child would do more harm than the remedy could repair.

The antiseptic and solvent treatment is the accepted one; all others have practically been abandoned. A remedy which combines both properties is the one to be desired. The spray, in addition to the antiseptic and dissolving properties of its ingredients, acts mechanically by washing the membrane away; frequent irrigation of the surface alone does good.

He had had considerable experience with the use of trypsin, but very little with papoid; all the cases of diphtheria in which he had used trypsin so far had recovered. He had four cases in one family; in the first, trypsin was used and the membrane disappeared in two days, when it was suspended, and the carbolic spray used; the membrane reappeared, when the trypsin was again used and continued until the case was cured. In the others, the trypsin was used continuously from the appearance of the membrane with successful results. They were not very bad cases. He used fifteen grains of trypsin to the ounce of water, applied with a camel's-hair brush. The rapidity of the disappearance of the membrane is marvellous. Trypsin acts well also in nasal diphtheria.

Papoid digests better if the medium has but little fluid in it. Pepsin requires a great deal of water. This is another argument in favor of papoid. As compared with pancreatin, papoid in artificial digestion is more active. He had not seen any comparative experiments between papoid and trypsin. As it acts in an alkaline medium, it is indicated in chronic gastric catarrh where the secretions are alkaline.



In these two remedies we have an important addition to the treatment of diphtheria.

The profession holds to the time-honored treatment by iron and potassium, when there is no reason for it; indeed, there are many objections to the combination. The iron corrugates the membrane, blackens the tongue, and makes the tissues less amenable to antiseptics and solvents. The potassium chlorate may injure the kidney.

DR. BROMWELL.—Was there not some danger, after the membrane had been removed, in the continued use of trypsin, as it is said to dissolve muscular tissue?

DR. JOHNSTON.—Unless the tissue was very deeply infiltrated and necrosed, there would hardly be any danger. There was no evidence of superficial necrosis from the remedy.

DR. ACKER had had considerable experience with trypsin in the treatment of diphtheria in the Children's Hospital. There were ten cases, and three of them were very severe. He used trypsin, one drachm to the ounce of water, with the bicarbonate of sodium. Iron and quinine were also given. The trypsin removed the membrane in two or three days. All recovered except one that had laryngeal diphtheria. One case in private practice died, although he had dissolved the membrane with trypsin.

It is questionable whether diphtheria is primarily local or constitutional. A Pittsburgh doctor believed that diphtheria was caused by a defective action of the liver. This man claimed that his successful treatment with calomel sustained his theory.

In the nose, where the secretions are very thick, it is impossible to apply trypsin effectively. He believed in constitutional treatment.

DR. KING.—If it be true that papoid will dissolve the membrane by applying it every hour, why not apply it every five minutes, and dissolve it in an hour, instead of disturbing the sleep of the patient every hour during the night?

DR. JOHNSTON.—In the use of papoid, time is required to dissolve the membrane; hence there is not any particular benefit to be derived from such frequent applications as once in five minutes, if such a plan were practicable. In some recent experiments, a five-per-cent solution of papoid digested eight grains of diphtheritic membrane in twenty-six hours, and five grains in twenty-four hours. In a parallel experiment in a neutral solution, it had only partially digested a similar quantity of membrane in thirty hours.

In closing the discussion, DR. BROMWELL said papoid is the juice of the trunk and fruit of the South American melon tree (*Carica Papaya*) treated with alcohol. It possesses the property of digesting from one thousand to two thousand parts of fibrin, moistened with either warm or cool water. Muscular tissue is said to be softened in a five-per-cent solution in a half-hour. It likewise dissolves unhealthy mucus. This digestion or solution is equally well performed in an acid, alkaline, or neutral solution or fluid. When once brought in contact with albuminoid tissue, it adheres tenaciously to it, repeated washings with water with difficulty removing it. Not only is it a digestive solvent, but it is claimed, he thought justly, to be antiseptic in its action.

He claimed that it was curative in the treatment of diphtheria, in rapidly removing, by solution, the false membrane in any stage, not only removing it, but removing fetor by its antiseptic properties, and preventing secondary blood poisoning, thereby greatly



lessening the mortality. He believed the danger in diphtheria to be in proportion to the extent and thickness of its false membrane; that the secondary blood poisoning resulting from the septic changes, which always take place in its removal when left to itself, was a more important factor in its death rate than either the extension of the disease to the larynx or its primary blood-poisoning. He excluded those rare epidemics where the majority of fatal cases resulting, from the primary septicemia, knocked down, as it were, the patient at the very onset of the disease. He could not accept Dr. Johnston's theory of the purely local nature of the disease, and therefore combined a constitutional with a local treatment in every case, no matter how mild. He concurred with Dr. Johnston in the value of antiseptic gargles and douches as prophylactics, his experience during severe epidemics convincing him of their value. He did not think the spray of carbolic acid and water of much value, as diphtheritic membrane was insoluble in water, and the multiplication of bacteria going on beneath it could not be arrested unless reached by the agency of some solvent. Lime water is a solvent, and formerly he had relied upon it to a considerable extent. Regarding the question of diagnosis raised by Dr. Smith, were not the history of the cases, in general, sufficient to place it beyond question, the enlargement of the deep cervical glands did so. This symptom may be considered pathognomonic. The action of papoid would not be hindered by the acid of the iron mixture, as its digestive or solvent properties were equally well performed in an acid as in an alkaline or neutral fluid. Accepting the theory of Oertel, it is all-important that the numerous colonies of micrococci which are constantly forming in and under the false membrane be brought in contact with some agent to destroy them or remove them before they enter the circulation or penetrate the tissues. This could be accomplished by papoid or some solvent repeatedly applied, aided by other means to arrest putrefactive changes, and a suitable constitutional treatment, dietetic and medicinal.

## TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

*Regular Meeting, Friday, May 25th, 1888.*

*The President, HENRY T. BYFORD, M.D., in the Chair.*

DR. E. C. DUDLEY presented specimens of

CARCINOMA UTERI AND A DERMOID CYST.

He said: I have two specimens that do not belong to the series of last year's operations, and consequently would like to present them before giving that series.

The first is a uterus removed for carcinoma; and the second, a dermoid cyst. When I first saw the woman from whom this uterus was taken, I found upon the posterior lip of the somewhat

enlarged cervix, just posterior to the os externum, a suspicious patch, about the size of a five-cent piece, and being under the impression that it was probably a cancer, I excised a small portion of it for examination. Dr. Billings, after microscopic examination, pronounced it carcinoma. The uterus was freely movable, and the disease seemed to be confined entirely to this point. The uterus was removed through the vagina, at St. Luke's Hospital, about three weeks ago. No ligatures or sutures were employed in its removal, the hemostasis being effected by pressure forceps. Without hurrying or making an effort to hurry, I had no difficulty in getting the uterus out in about twelve minutes. Some additional time was required in securing the smaller vessels: it was an unusually hemorrhagic case. When the operation was completed, the vagina was filled with forceps, about sixteen in all, of which the least important were removed in twenty-four hours, the more important in forty-eight, and the most important, on the broad ligaments, in seventy. The patient seems securely convalescent.

An interesting feature of this case is the early recognition of the disease; indeed, we rarely see carcinoma of the uterus in its incipency, but, on the other hand, the disease has often advanced too far to give promise of permanent cure by hysterectomy. A case more favorable than this for cure could scarcely be imagined.

The next specimen is from a nullipara, 22 years of age, married two years ago. She was recently sent to me by Dr. Charles Gilman Smith. Five days ago I removed this tumor that, as you see, is a dermoid cyst. There is a piece of bone, an abundance of hair, and a very great quantity of fat. The other ovary, which I have here, is cystic, considerably enlarged, and shows the corpus luteum of menstruation.

A peculiar feature of this case was the immense size, length, and diameter of the two Fallopian tubes; they were very edematous, showing an obstruction in the circulation somewhere. The fluid of this tumor was very thick, ran through the trocar very slowly, and consequently some of it found its way into the abdominal cavity. Therefore, although there were no adhesions, I introduced a drainage tube that was removed this morning, having discharged quite a large quantity of bloody serum during the three or four days after the operation. The patient gives every evidence of making an uncomplicated recovery.<sup>1</sup>

THE PRESIDENT showed the following specimens:

MULTIPLE SUBSEROUS FIBRO-MYOMATA OF THE UTERUS.

This specimen is a typical example of multiple subserous fibromyomata of the uterus, ranging from the size of a small pea to that of a cocoanut. The enlarged ovaries, with the normal tubes, are hanging high up on either side. Here is a large mass, nearly the size of the fist, that projected down to the pelvic floor, and that

<sup>1</sup> This patient recovered.

had been felt per vaginam as a tumor beside the cervix. It was undergoing calcification. The patient, Mary N., was a negro virgin, 32 years of age, who had not menstruated until her 20th year. Five years ago, a physician diagnosed a tumor of the intestines by external manipulation. The indications for removal were the failure of other treatment, uninterrupted growth, severe and ever increasing attacks of pain, and a location which would have rendered its further development dangerous and its future removal one of extreme difficulty. The menses, although more abundant than formerly, had been coming less frequently of late. This would seem to signify a falling off in activity of uterine and ovarian function, and a final cessation of growth—a result I have often seen in these cases of multiple subserous growths. Had the location and relations of this tumor been different, its removal would never have become a necessity. The broad ligaments and bladder were carried up so high, and were so closely adherent to the mass, that the prevention of excessive hemorrhage during the formation of the pedicle was difficult, and made the operation long and laborious. After partial separation of the bladder and broad ligaments, a temporary elastic ligature placed around the middle of the tumor, and above the part where I had to work, was of great value in diminishing its vascularity and checking the profuse venous oozing. The figure drawn by Dr. Mundé, on page 303 in the March number of the *AMERICAN JOURNAL OF OBSTETRICS* of this year represents almost exactly the relations of this tumor, except that the bladder is not shown. After separating the bladder sufficiently, I made an incision over the posterior surface of the pelvic growth, enucleated it rapidly and easily, and threw another elastic ligature around the uterus, at about the level of the internal os. The stump was fixed to the abdominal walls according to Hegar's method, except that I drained the lower end of the wound and surface of the bladder by means of a strip of iodoform gauze, left for three days; and also the bed of the enucleated tumor by a small glass tube above the stump, left for five days. I introduced the pins about half an inch above the elastic ligature, in order to let the cervix down as low as possible. Plain absorbent cotton was used as a dressing to the stump, after Bantock's manner, causing it to become dry and horny, and thus entirely harmless. She recovered without an unfavorable symptom, and took no medicine except a laxative.

#### UTERUS REMOVED FOR CARCINOMA OF THE CERVIX.

I have here a uterus, with a broad rim of vagina attached, that was removed for cervical carcinoma; also the left ovary, which was four times its natural size, and imbedded in lymph, but not carcinomatous.

The patient, Mrs. O. B., is 25 years old, and has two children, the younger one but two years old. As the posterior wall was in-

filtrated up to the internal os, and the uterus more rigid than usual in its attachments. I started out to make an exploratory incision in the cul-de-sac of Douglas, and expected, if I found evidences of extension of the disease beyond the uterus, to close the incision and wait two or three weeks before attempting a palliative operation. I dissected and tore my way up between the uterus and rectum, but could not get into the peritoneal cavity. A fibrous band, extending from the posterior cervical wall backward, was in the way. Feeling confident that the uterus and perhaps all of the disease could be safely taken out, I carried the vaginal incision completely around the cervix, dissected off the bladder, and pulled the fundus forward into the vagina. The fibrous band that connected the uterus with a knuckle of intestine was tied and cut, and the cul-de-sac opened from above. The broad ligaments were clamped with hemostatic forceps, and the uterus cut out between them. The ovary was then peeled out of its bed of lymph in the left lateral sacral peritoneal pouch, ligated, and cut off. The ligatures, which were left long enough to protrude at the vulva, came away in about ten days. The peritoneal wound was left open, and the vagina plugged with iodoform gauze. The forceps were removed in twenty-eight hours, and the tampons in four days. The recovery has so far been uneventful and uninterrupted, and without any medication except a single dose of morphine and the usual laxatives.

Martin, Fritsch, Leopold, and others have adopted set methods of procedure for vaginal hysterectomy, from which they seldom vary, except in unimportant particulars. Their skill may enable them to do so. My experience with six cases has, however, led me to believe that the safest way for the patient is to vary the operation to suit the case. For instance, in this case I could not have ligated the broad ligaments before anteverting the uterus without working in the dark, and greatly increasing the danger. In my third case the uterus was so broad that I could not isolate the broad ligaments until I had retroverted the fundus. In my second case the vulva and vagina were so small, and the tissues so rigid, that I could not readily antevert or retrovert, nor could I draw the organ down so as safely to apply ligatures, hence I applied three forceps on each ligament, cutting the tissues clamped by one pair before applying the next one above. In the first, fourth, and fifth operations I applied ligatures from below upward, scarcely touching or seeing the peritoneum except on the stumps and on the uterus.

The cases all recovered, and it seems to me of much less importance whether or no sutures or forceps are used, or whether the uterus is anteverted, retroverted, or merely drawn down, or whether half an hour or two hours is consumed, than that the operation be properly, carefully, and completely done. To choose the most direct method for the particular case, to handle the tis-

sues carefully, to make sure against hemorrhage, and to provide an exit for the discharges makes the best operation, and will give the best results.

THE UTERINE APPENDAGES REMOVED FROM TWO CASES BY VAGINAL SECTION.

I wish also to present specimens from two cases of vaginal section, made four weeks ago for the removal of the uterine appendages. You will notice that the organs are not mutilated, and present the same appearance as if removed by abdominal section. In one case the tube was dilated with bloody serum, and resembled an intestine so closely that I made a thorough digital exploration before I ventured to ligate it. The ovary is about the shape of a slice of bread, and fully four times its natural size. The ovary and tube were adherent to each other and to the posterior surface of the broad ligament. Both patients are making a good recovery.

DR. C. T. PARKES.—I expected to have two specimens as the result of vaginal hysterectomy with me to-night, but they have not come, and I will refer to them only so far as Dr. Dudley's specimen is concerned. In both cases the manifestation of the disease was not great. In one, at least, the diseased point did not cover a space any larger than in the case shown by Dr. Dudley, and in both of them sections were made and submitted to microscopic examination, and they were shown to be carcinomas. The uterus was removed by vaginal section. I was interested in what Dr. Dudley said about the time at which the cancer is removed. He said that in all the cases of complete removal of the disease, those cases that were removed as early as the one shown would be the most promising cases. I remember very distinctly, in both of these operations, on the side in which the disease showed itself the section of the broad ligament with the scissors was not as easily made as on the other side, and when removed the density of the tissue was greater on that side than on the other, creating in my mind the suspicion that some absorption had taken place, although it was not positively detectable, so these cases I shall watch with interest to see if there is any return of the manifestations.

I was somewhat surprised to hear Dr. Dudley say that in this operation, which was done so readily and rapidly, he was compelled to use sixteen forceps. I have done this operation half a dozen times, and in none have I been required to apply more than three forceps, although the bleeding was in each controlled by hemostatic forceps. In these last two cases, the specimens of which I will show at some future time, but two forceps were used; they were long forceps, and embraced the whole length of the broad ligament fairly and squarely, and there was no hemorrhage of any consequence. Both patients have passed beyond the necessity for further attention, and their recovery is established so far as the operation is concerned.

One point with reference to the removal of the fibroid uterus and the use of the elastic ligature. I remember in one of my cases of removal of the fibroid uterus of using the elastic ligature as a temporary application to control hemorrhage. In one case



where I applied the ligature—and I speak of it as a warning as to the care required in its use—the section was made low down, and there was very little stump to take hold of after the uterus was removed; I congratulated myself upon the ease with which it was done, and, in the midst of my congratulations, the ligature slipped over the end of the stump, and the stump was at the bottom of the pelvis, and the woman lost a good deal of blood before it could be secured.

I had the honor of reporting a case of successful removal of a good-sized tumor about two years ago. Two or three days ago, a lady came into my office, perfectly well so far as her general health is concerned, but with an open sinus in the abdominal wall and through the vagina, with the history that some months ago an abscess formed in the line of the incision and from the opening she got a ligature. You will remember that in reporting that case I said I had had five cases of removal of fibroid tumors and the first three died. These three were done by the extra-peritoneal method and I concluded that was not my forte, and the next case, which was this one, I treated by the intra-peritoneal method, and the woman got well promptly, and until a few months ago was entirely well, until these ligatures came away of their own accord. The other case was also done intra-peritoneally, and she is perfectly well and doing her ordinary work now.

DR. JOHN BARTLETT.—Dr. Parkes refers to the difficulty he got into on account of the slipping of the rubber ligature. He should have indicated the way in which he helped himself out of it. For a moment he vainly sought for the lost pedicle lying deep in the pelvis in a pool of blood; he then thrust the handle of an instrument into the vagina and thus lifted the stump of the cervix out of the pelvis within easy reach.

DR. E. C. DUDLEY.—It is possible that, as far as hemostasis is concerned, the forceps may be safely removed after twenty-four hours, but there are two reasons for leaving them longer. First, the wound secretions, always abundant during the first two or three days, find their way by continuity of surface along the track of the forceps out through the vagina; the forceps, therefore, very effectively facilitate drainage. Second, the tissues grasped in these forceps are certain to slough, and this being the case the sooner the sloughing tissue comes away the better. Now the longer the forceps are left the longer the tissues will be compressed and the more quickly will they slough, and if left two or three days, the tissues in their grasp will come off almost as soon as the forceps are removed, or the forceps may even drop off without being removed at all.

It is better ordinarily not to antevert or retrovert the uterus, because if a carcinomatous cervix is thereby forced into the peritoneal cavity, carcinomatous or septic infection may result. Moreover, when the uterus is anteverted or retroverted, the cervix being in the peritoneal cavity and the corpus being in the vagina, you have the larger portion of the uterus in the vagina, where it is an impediment to the operator.

As soon as the opening is made, it is well to force a sponge through it into the pelvic cavity, then another and another. They prevent the formation of blood clots which it might be difficult to remove. When the operation is done, withdraw these sponges and the toilet of the peritoneum is made. A string attached to each



sponge keeps it from working its way beyond the reach of the finger.

I shall never again use the vaginal tampon of iodoform gauze as a last step in the operation. The vagina is an excellent drainage tube if left open, but the tampon impairs its efficacy as such. An antiseptic dressing may be placed over the vulva around the handles of the forceps; if any tampon at all is to be used in the vagina it should be placed between the anterior wall of the vagina and the forceps, not between them and the posterior wall where it would be doubly certain to obstruct the outflow of the wound secretions.

DR. E. C. DUDLEY read the following paper entitled:

#### A YEAR'S WORK IN ABDOMINAL SURGERY.

The list of seventeen cases which I now report includes all of my work in abdominal surgery in 1887. Eight operations were for the removal of the uterine appendages, seven for the removal of ovarian and parovarian cysts, one for the removal of the uterus through the vagina, and one for the incision and drainage of a pelvic monocus. All recovered.

The eight patients from whom the uterine appendages were removed had, in every instance, suffered from recurring pelvic inflammations, which had rendered their lives miserable, for which other means of relief had apparently been exhausted, and for which this operation was a final resort. The results of these operations cannot be as satisfactorily reported now as they might be at a later date.

Four cases (2, 8, 14, and 17) have been apparently cured.

Two Cases (3 and 12) were of nervous, neuralgic patients who had suffered for many years from disorders of nutrition, dyspepsia, dysmenorrhea, pelvic pains referable to the region of the ovaries, particularly the left ovaries, which were prolapsed, and from various other disturbances which go to make up the symptom group of hysteria. These have been improved, but the improvement has been chiefly confined to the relief from pelvic pain and dysmenorrhea. It is too early to predict results relative to the nervous aspects of these two cases.

One case (4) was not materially relieved until after the shortening of the round ligaments for a retroversion, which persisted after the removal of the appendages. I am informed that she is now very materially improved, if not cured. Another (5) has passed from my observation, and results cannot therefore be given.

In case 8, each tube contained not less than four ounces of pus. The ovaries were cystic and enlarged; no adhesions. One tube was brought up into the wound, and its contents drawn off by

<sup>1</sup> One of the above operations was performed at a private residence: 15 at St. Luke's Hospital; and 1 at the Presbyterian Hospital. Fourteen, though in hospital rooms, were private patients. This list of seventeen consecutive recoveries might be increased to twenty-one by going outside the year 1887.

means of a small trocar, before the ligature was applied. The other was ligatured and removed intact. The tubes were enormously distended, and I think would have burst before long had they not been removed. The peritoneum in the region of the appendages was studded all over with small pearly points, giving evidence of miliary tuberculosis; no ascites. Dr. Frank Billings, upon microscopic examination of the contents of the tubes, found the bacillus tuberculosis. This is contrary to the statement of an English ovariologist, who declares that tuberculosis does not exist in the tubes. No drainage was used; perhaps drainage might have been desirable on account of the tubercular disease in the peritoneum.

In case 17, only the right ovary and tube were removed, the other being entirely absent—a condition which has been observed in other cases. This woman, however, had borne children, and contrary to rule in such cases, the uterus was entirely symmetrical, the left side having been as perfectly developed as the right. At the left horn of the uterus, where the tube should have joined it, there was a slight protuberance, indicating a very rudimentary tube, and at the point of this protuberance, a little depression could be seen, but whether there was a connection between this depression and the interior of the uterus I did not determine. The ovary and tube which were removed were extremely adherent; the ovary was cirrhotic and had been the seat of pain for years.

Of the seven ovariectomies, four were for ovarian and three for parovarian cysts. They illustrate both the gravity and the simplicity of these operations. The parovarian cysts were easy of removal; the others were adherent and two of them presented difficulties which rendered their removal almost impracticable.

In one (case 11) the tumor was so intimately adherent through, out its entire surface that I was unable to break up the adhesions in the usual way, but was obliged to split the cyst-wall, leaving what might be called the capsule of the cyst in the abdomen, stitching it to the abdominal wound. The layers of the cyst-wall were so intimately connected that the greatest difficulty was experienced in separating them. The torn surfaces bled so profusely that I used Mikulicz's drainage, packing the cavity with iodoform gauze, leaving it in for twenty-four hours, and then substituting the drainage tube. After a long, tedious convalescence, the patient was discharged, having a fecal fistula at the lower extremity of the wound. Whether this fistula resulted from some damage done to the intestine in the operation, or from the pressure of the glass drainage tube, or from an ulcerated condition of the lower bowel, which had been recognized previous to the operation, I do not know. She had been a victim of epilepsy, which for a number of months after the operation was in abeyance, but which has now reappeared and of which she will probably die.

In the second (case 6), the adhesions were also very extensive ; not less than a square foot of surface was exposed in separating them. After breaking up some very extensive parietal adhesions on the right side, the hemorrhage was quite profuse and from a hundred points, and not controlled by the ordinary isolated ligatures. Hemostasis was finally secured by passing a number of silk sutures, half an inch apart and parallel to one another, deep down beneath the bleeding surfaces, and tying them tightly. This method seems preferable to the actual cautery. It is rapid and effective. The patient did well for three weeks and seemed to be securely convalescent, when she came near dying of septicemia consequent upon several hypodermic sloughs, hypodermics having been given at the time of the operation for an alarming heart failure.

In case 1 a croupous pneumonia developed immediately after the operation, from which the patient narrowly escaped a fatal result.

The vaginal hysterectomy was for sarcoma uteri and has previously been reported to this Society. The patient, I understand continues in good health.

The case of incision with drainage was unlike anything I had ever seen. The cyst-wall was very thin, was opened directly without invading the abdominal cavity, and so far as I was able to determine, was intimately adherent all around, except perhaps deep down in the pelvis and on its posterior surface. I could feel the ovaries and uterus through the cyst-wall. Lawson Tait describes a variety of abdominal cyst in many respects similar to this.<sup>1</sup> He reports six cases, all occurring in young women between the ages of sixteen and twenty-six. Before operation they appeared to be parovarian cysts. Upon opening the abdomen, intimate adhesions were found between the cysts and peritoneum, fluid, limpid cysts lined with epithelium, smooth glistening surface : the uterus and ovaries could be felt through the cyst-wall, were apparently healthy and independent of the cyst. The tumors were therefore neither ovarian nor parovarian. Tait is disposed to refer them to a distinct class of pathological cysts. His impression is that they are formed by dropsical distention of an ovule which had not become impregnated, but which, having dropped into the peritoneal cavity, had there become attached and developed.

An examination of the contents of this cyst gave the following results :

*Report of Analysis* of fluid from abdominal cyst opened by Dr. Dudley at St. Luke's Hospital, September 26th, 1887.—A sample of the fluid containing about three fluid ounces was taken.

Upon inspection the fluid appears clear, translucent, and con-

<sup>1</sup> "The Pathology and Treatment of Diseases of the Ovaries." Fourth edition, page 184. William Wood & Co.

tained no (macroscopic) sediment. Color, amber; odor, none; reaction, neutral; specific gravity, 1.008.

Chemical examination showed albumin present in large quantity (nitric acid, and heat test) so that the mixture coagulated into a semi-solid mass.

Another portion diluted four times by distilled water showed, after applying the acid and heat, shaking to break up the coagulum, and allowing to settle for twenty-four hours, a precipitate filling one-third the bulk of the mixture.

Applying Francklyn's method of reduction (*Journal American Medical Assoc.*, April 4th, 1885), it is found that the original fluid contains about .026 by weight of albumin.

Tests for urea, uric acid, phosphates, and peptones were applied with negative results in each instance.

Microscopical examination of twelve slides revealed no sediment except a few particles of amorphous material (probably extraneous).

H. H. FROTHINGHAM.

45d Street and Lake Ave., October 3d, 1887.

*Preparatory Treatment.*—Unless there was some special indication to the contrary, the preparatory treatment was short and simple, occupying not more than two or three days, as follows: A cathartic about forty-eight hours before the operation; repeated vaginal douches of hot castile soap suds, with thorough cleansing of the external genitalia and of the entire abdominal wall, especially of the umbilicus. One or two general shampoo baths or if practicable a Turkish bath with a lather shampoo of the hair. The hour for operating has been nine o'clock in the morning, a cup of beef-tea having been given two or three hours before. Previous to the day of the operation diet is not restricted or modified.

*Antisepsis.*—Antiseptic drugs as a rule were not used in direct connection with the operation. They were employed for the purpose of rendering hands, instruments, and patient surgically clean, and then thoroughly washed off with water which had been sterilized by filtering and thrice boiling; that is, antiseptic drugs were not brought in direct contact with the wound. Sponges which had been kept in weak solutions of sulphurous acid, carbolic acid, or corrosive sublimate were never used until these drugs had been thoroughly washed out with sterilized water. Indeed, everything that was to be in direct connection with the operation was treated in this manner. Fumigation of the patient's room has only been done when it had previously been occupied by several cases or by a suspicious case. Sometimes, as a matter of ceremony, a little iodoform was sprinkled over the wound before the dressings were applied, but it smells bad and may do harm by exciting or keeping up nausea.

If in the toilet of the peritoneum there be blood, oozing points, or pus, or if these be even suspected, I wash out the abdomen

freely, putting in quarts or gallons of water; and when in doubt whether this should be done, I remove all doubt by doing it.

The same rule applies to drainage. If in doubt, always drain. I have recently lost a patient whom drainage might have saved. The adhesions were extensive, but the abdomen being perfectly dry, I closed without drainage. She did badly for the first thirty-six hours. I reopened; there had been no hemorrhage, but the abdomen contained an abundance of bright red serum. If this had not been allowed to accumulate at all, the result might have been different.

The glass drainage tube is always preferred. The tubes kept in the shops are too large. I have had some made, of the diameter of lead pencils, having the shape of test tubes, with many small perforations the size of a pin head at the closed end. Two or three of these tubes may be introduced if desired. They do no harm; they can be removed if nothing comes through and the openings immediately close, and they carry off the bloody serum or other fluids as efficiently as tubes of large size. Drainage not only prevents septic infection, but by keeping the abdomen dry serves as a hemostatic, as moisture favors hemorrhage. It is important that the perforations at the end of the drainage tube be quite small, otherwise portions of omentum are apt to work themselves through and make trouble in the removal of the tube. I have recently had two such cases; in one the tube was nearly half full of omentum which had worked its way through an opening only one-tenth of an inch in diameter. This annoyance may be in a measure prevented by giving the tube a turn or two whenever the dressing are opened.

*Medication and Diet.*—The cases included in this report have recovered with very little medicine, some without any at all. Opium has been used very exceptionally. A patient who begins to take opium for pain after abdominal section ordinarily continues to have the pain and to require the opium; but if the drug be withheld, the pain generally subsides.

Case 11 strikingly illustrates the advantage of a non-opium treatment. Abdominal tenderness and distention, and other signs of peritonitis appeared soon after the operation; it became essential to relieve the distention by evacuation of the bowels; soap and turpentine enemata were inadequate and the movement was not without difficulty secured by means of calomel and soda, whereupon the peritonitis subsided. Had the secretion been locked up under the influence of opium, the peritonitis would have probably extended and, I fear, with fatal result.

It is perhaps not too much to say that the modern treatment of peritonitis by catharsis, judiciously employed, is sound. Not less than half of my patients after abdominal section have a cathartic before the end of the third day; the others are usually treated with copious enemata of stiff soap suds in which a teaspoonful of



turpentine to the quart has been thoroughly mixed. Upon the least suspicion of distention an action of the bowels should be secured.

During the first twenty-four hours no food whatever is given; only a little hot water, or ginger ale, or possibly champagne. On the second day a little barley water is cautiously given, soon to be followed, if there is no disturbance or nausea, with half-teaspoonful or teaspoonful doses of milk, repeated occasionally and increasing in quantity, as the patient gives evidence of being able to bear it.

*The Staffordshire Knot.*—Three years ago I saw Mr. Tait apply the Staffordshire knot. In the first case, after my return, I attempted to apply it and the patient died of hemorrhage. The next year I saw Mr. Tait operate fifteen or twenty times, and particularly observed his method of applying this knot, and since then have used it invariably, and consider it, generally speaking, the best ligature. A distinguished surgeon in New York has lost a number of patients from hemorrhage with the Staffordshire knot and has discarded it as dangerous. Indeed, a number of operators have had most unpleasant experiences in its use.

The secret of Mr. Tait's success lies in a single manœuvre. After the pedicle has been transfixed, the loop drawn through and brought over to the point of transfixion, and placed between the two free ends of the ligature, these latter are held firmly between the thumb and finger of the left hand close to the point of transfixion. Then with the right hand he catches each free end separately and draws the ligature perfectly tight, and while the thumb and finger of the left hand still hold the thread at the point of transfixion to prevent the ligature from slackening again, the operator, with his right hand, aided by the assistant, makes a hard knot.

An additional precaution to prevent the ligature from slipping may be wisely observed by transfixing at two points, first forcing the loop through at the juncture of the Fallopian tube and uterus in a direction from the operator, then carrying it along on the further side of the broad ligament, and drawing it through again in the direction of the operator, transfixing at the hilum of the ovary. The loop may then be drawn over the tube and ovary and that portion of the broad ligament which it includes, and tied as already described. This modification of the Staffordshire knot which, I am informed, Mr. Tait also occasionally employs, makes hemostasis doubly certain, and is to be preferred on this account.

A word about the silk. The great annoyance which every operator has experienced in breaking a thread at a critical moment, while attempting to apply a firm ligature, is sufficient proof that the silk ordinarily sold by instrument makers is generally inferior and often worthless. A variety of twisted silk, known as "Chinese Grass," may be found at the fishing-tackle shops. For surgical



purposes it is unexceptionable, inasmuch as it has the qualities of absolute purity and great strength.

*The arrest of menstruation.*—One of the chief objects in the removal of the uterine appendages, in a great majority of cases, is to arrest menstruation; in other words, if menstruation be not arrested, the operation in very many cases fails. In the early history of the operation the ovaries alone were removed, or the ovaries and a part of the tubes. It was found in some cases that menstruation continued as before or increased. Then the tubes began to be removed also, and the complete arrest of menstruation was more frequent. It was further found that if the tubes were removed entire, close to the uterus, menstruation was almost always arrested, and that in many cases which were thought to be exceptions, the tubes in reality had not been entirely removed. Oftentimes a small knuckle of tube was discovered to have been left, and to be so closely adherent to the uterus that it escaped notice. The removal of this knuckle has been known to arrest menstruation. Reasoning from these facts, it was concluded that the tubes really have more to do with menstruation than the ovaries.

Contrary to this idea, Dr. Arthur Johnston, of Danville, Kentucky, in a conversation with me several months ago, said that the true explanation of these facts might involve an entirely different conclusion. There is a little plexus of nerves in the broad ligament, in the angle formed by the uterus and Fallopian tube. When the tube is entirely removed, this plexus of nerves is entirely removed also, and on this account it may be that menstruation ceases, rather than on account of the removal of the tubes.

If this be true, it is a fact of immense value. Possibly a ganglion may be found in this region, and it may follow that the removal of this plexus alone, without reference to the ovaries and tubes, may arrest menstruation. This specimen from Case 2 illustrates the plexus of nerves, which is easily recognized by the naked eye.

*The incision.*—The opening into the abdomen has in most instances been short. Surprising as it may seem, it is sometimes easier to perform difficult manipulations in the abdomen through a small opening than through a large one. The large opening permits the intestines and omentum to rise up in the way of the operator, and to render inaccessible the field of operation. With the small incision, a soft sponge or two will keep the intestines entirely out of the way, and, although the field of operation may not be as easily drawn up to the incision, the small abdominal wound can be easily forced down to the field of operation. This is even true of large ovarian cysts with extensive adhesions. After the removal of the fluid, the lax abdominal wall permits the opening to be moved about to almost any part of the cavity. In many instances the short incision enables the operator to do his work with the

minimum amount of operating, and for obvious reasons, therefore, with the minimum risk.

It is well, in closing the abdominal wound, to tie the sutures with bow knots, leaving the ends long, in order to obviate the necessity of introducing new sutures, in case it becomes desirable, at any time, to reopen the wound.

*General Remarks.*—It has so happened that in almost all of these cases there has been a steam radiator under the window before which the operations were done, the patient's feet being toward the window. This insured a constant warmth of the feet during the operation, and perhaps has in some degree contributed to the freedom from shock.

In removing the appendages, the toilet of the peritoneum may be much facilitated by forcing a soft sponge down into the cul-de-sac of Douglas as soon as a tube and ovary is drawn up into the wound to be ligatured; two or three sponges may be required. If there is much oozing, they may be frequently changed. By this means the blood is immediately taken up by the sponges, and when these are removed the peritoneum is dry. Otherwise blood would find its way into the cul-de-sac and form a clot which might escape notice.

I have not brought the specimens, with the single exception of Case 2, because there is not very much of interest in the ordinary specimen. Every one presents specimens in abdominal surgery, and it has, therefore, ceased to be a luxury to look at them unless they are very remarkable.

DR. C. T. PARKES.—I think Dr. Dudley is to be congratulated upon these interesting and successful cases, but I think the Doctor will not have done all his duty until he has given us some of the snags he has met with in the shape of deaths. These cases are full of interest, but I have always found the cases that have died have been the ones from which I have learned the most. I have no doubt that will come in due time.

So far as my experience goes in the removal of the uterine appendages, in every case there has been found disease of the appendages or ovaries, there was either closure of the internal or external opening of the tube, some enlargement, or some disease of the ovaries themselves, which really pointed to the condition of the appendages as the cause of the trouble.

In the case Dr. Dudley reports of cyst with drainage, that had no connection with the uterus or ovaries, which, after an opening was made into the abdominal cavity and the finger introduced, the ovaries and uterus were felt perfectly normal, gave rise, in my mind, to the suspicion that, instead of being a cyst with a distinct and separate wall that could not be recognized or differentiated from the peritoneum, it was a case similar to one I have seen, which would come under the appellation of an encysted dropsy, where the inflammation of the peritoneal cavity had been of such a nature as to agglutinate the intestinal folds together, and formed a perfect roof to the cavity, and the fluid had gone on accumulating until the quantity of fluid had shown the external manifestations of a cyst; when cut into, the cavity was found to have no con-

nection with the uterus. It is what Spencer Wells calls an encysted dropsy. I think it would be difficult to say that there was a true cyst-wall in a case of that kind, if no separation whatever could be found. The character of the fluid he mentions rather points to that condition.

I was exceedingly well pleased to hear the doctor speak of his experience with reference to antiseptic precautions, it agrees with my experience so far as abdominal work is concerned. In a case I reported a few years ago, the only case in which I had had much trouble in that series, and in which I carried out Lister's instructions, it gave me more trouble than all the rest, and I think it was from using too strong antiseptic applications, so I resumed the same course the doctor has indicated with regard to antiseptic precautions in abdominal cases. Several years ago, in the Chicago Medical Society, I took occasion to refer to the fact that I had tried the Staffordshire knot, and it failed. I did an operation for the removal of the uterine appendages before a class at college, and desired to illustrate the Staffordshire knot. I thought I understood all about it, and when I had it applied, cut off the appendages and returned the stump to the abdomen, but to my astonishment the wound filled with blood, and I had quite a time to fish it up from the cavity and stop the bleeding which was going on freely. I recognized then the very fault the doctor has illustrated, the trouble was that I did not secure the pedicle at all in tying the knot. Recently, on a visit to New York, I saw Dr. Polk do two laparotomies for uterine disease. In one of them I asked him to illustrate to me the application of the Staffordshire knot, and he did it in the manner which the doctor has illustrated, and showed me plainly where my fault had been in not pulling up the ligature on each side before the knot was tied.

So far as my experience goes, in many of these cases which require the removal of the appendages, there are no symptoms that can be fixed, so far as the physical examination is concerned, as coming from any disease of the uterus or appendages, but after the operation is done it often turns out that disease is found in the tubes.

There was one point I wished to speak of—the case of epilepsy relieved by an operation. I am associated with a gentleman who has had a great deal of experience in one of the insane asylums with epileptics, and he has found it to be a fact that no matter how small an operation may be done, and no matter where it is done, as a direct effect of that operation the patient is relieved of epileptic seizures for some time.

DR. HENRY T. BYFORD.—I have had a great deal of experience with Tait's knot, but it has all been confined to one case. I pulled the threads tightly before tying, closed up an apparently dry peritoneal cavity, and lost my patient from hemorrhage. The ligature had not held. As the method which I ordinarily employ has never failed me, I have not since felt inclined to try the more complicated varieties, which, although they may be as safe, are more difficult of application. I pass a double thread through the edge of the ovarian ligament and through the mesosalpinx near the Fallopian tube, thus tying up the ovarian ligament, Fallopian tube and ovarian artery on one side, the rest of the broad ligament on the other, and then the whole stump *en masse* with the same threads.

With regard to after-treatment, I think that one of the most

important recent advances has been the administration of saline laxatives in place of opiates; as soon as symptoms pointing to peritonitis, sepsis, or intestinal obstructions make their appearance, they must be given early.

DR. KNOX.—What is your object in getting antiseptics out of your ligatures and instruments?

DR. DUDLEY.—Not having removed the cyst in case 9, I am unable to prove that a cyst existed. I think Dr. Parkes would readily agree with me had he been present at the operation. Among those who saw the operation there was no difference of opinion.

Fumigation of an operating room is undoubtedly an element of safety, although it is practically impossible to sterilize the air of a room by this or by any other means, because, after fumigating, other air will come in. It is evident, however, that, under ordinary conditions, the danger of infection from the air is very small as compared with the danger from non-sterilized fingers, instruments, ligatures, sponges, etc. The object of washing instruments, sponges, and ligatures free of antiseptic drugs is to avoid the irritating influence which these drugs might exert if brought into direct relation with the operation.

The question has been raised relative to the removal of the appendages for the relief of dysmenorrhœa. In none of the cases reported was dysmenorrhœa the prime indication for the operation, although dysmenorrhœa was frequently one of a variety of morbid conditions, the pathological causes of which it was hoped the operation would remove. In case 2 there had been dysmenorrhœa, but the operation was not done on that account, although I would not say that it never should be done in an extreme case, incurable by other means.

DR. JAGGARD.—What was the indication for operation in this case of removal of the appendages? The specimens show no appearances of disease that I can make out.

DR. DUDLEY.—This was a case of retroflexion, which I had failed for nearly two years to support by artificial means. The patient had suffered for several years from recurring attacks of pelvic peritonitis; the left ovary was prolapsed and was the seat of constant unremitting pain. Although urged to do this operation for a year, I had refused, and was only induced to undertake it after a long effort to give relief by other means. There was no element of hysteria in this case.

The patient had been a victim of more or less constant and acute pain; since the operation she has been free from pain. She had been obliged to spend a large part of each day in the reclining position; since the operation she requires the usual amount of rest at night, and no more. Her nutrition had suffered to an extreme degree from reflex gastric disturbances and she was unable to take much food of any kind; soon after the operation digestion became normal, she could take all kinds of wholesome food, and the anemia and emaciation promptly disappeared. She had been unable to walk or stand without great difficulty, or to endure the least fatigue; since the operation she has been able to swim, to walk, and to dance without limit. The patient had been a pitiable invalid; after the operation she became well.

In most of the other cases the appendages themselves showed more gross indications of disease, but in this case the removal of the appendages has given relief to a most distressing and most obstinate malady, which was just as serious for the patient as it

could possibly have been had the ovaries and tubes been the seat of every pathological development which has ever been known to affect these organs. In fact, the results have, perhaps, been more brilliant than in any other case of this series.

I would not refuse to remove the ovaries and Fallopian tubes for the relief of a malady which could not be cured by any other means, if that malady rendered the patient a miserable and useless invalid and if the patient could be cured by that operation.

Much disease may exist in the appendages with very little indication for their removal. A proposition which should make the extent to which the appendages are diseased proportionate to the indication for their removal, would be untenable.

The operation is certainly liable to an immense amount of abuse, a kind of abuse which is most serious for the patient, and on this account it is properly becoming the subject of vigorous criticism which should have the fortunate effect of limiting its performance to suitable cases. The removal of the appendages produces senile atrophy of the remaining reproductive organs, even though these organs be the seat of disease. Cessation of function follows therefore, even though that function be modified by disease; that is, with the atrophic process, pathological conditions cease. Consequently a dangerous possibility of this operation lies in the fact that it is certainly capable of curing a number of maladies which ought to be relieved by other means. The temptation to produce brilliant results by a prompt and certain remedy must always be great when other measures are long, tedious, and uncertain.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

---

*Meeting of March 15th, 1888.*

*The President, GILES S. MITCHELL, M.D., in the Chair.*

---

DR. CHAS. A. L. REED reported a case of

VAGINAL HYSTERECTOMY FOR MEDULLARY CANCER OF THE UTERUS  
COMPLICATED WITH EXTRA-UTERINE MYOMA, PELVIC ABSCESS  
AND PYO-SALPINX; RECOVERY.

Mrs. S. V., æt. 48, married, had one child at term twenty-eight years ago. Her menstrual life, beginning at thirteen, was normal up to her twenty-sixth year, when she had an attack of intra-pelvic inflammation from which date she has had more or less dysmenorrhea of the ovarian variety; while eighteen years ago she had an attack of recurrent menorrhagia lasting about six months. During the last twelve years she has suffered from severe lancinating pains in one or both legs, sometimes associated with contractions. There has been, during a large part of this period, more or



less inability to void the urine, necessitating the use of the catheter. Two and a half years ago, she consulted her physicians in Boston relative to a leucorrheal discharge which would become purulent and sometimes streaked with blood just before and after menstruation, and the menstrual act would then cover from ten to twelve days instead of from three to five as formerly. She was informed that her case was one of "change of life" and that she would be all right as soon as that important period was passed. During the next two years she was under the care of different practitioners until January of this year, when she consulted Dr. W. F. Taylor, of this city, who, diagnosing cancer, referred her to me for operation.

I saw her for the first time on January 3d. She was much emaciated, pale, and markedly cachectic. Her weight had been reduced from one hundred and eighty-five pounds three years ago to one hundred and five pounds at present. Her uterus was in normal position, but with a considerably enlarged and elongated cervix and a very patulous os. On introducing my finger into the latter for a depth of about three-fourths of an inch, a soft, friable, and granular tissue was encountered. About a half an ounce of the latter was removed and submitted to Dr. J. A. Thacker, the microscopist, for examination. After hardening in alcohol, he made a section concerning which he reported: "Had you been present and had before you a picture (microscopical) of a medullary cancer, and after viewing it well had looked down the tube of the microscope, you would have found the picture reproduced in the microscopic field precisely." The patient entered St. Mary's Hospital for

*Operation, January 11th.* Present and assisting were Drs. Welling, Jones, and Dandridge. Preliminary to the operation proper, the cervical canal was thoroughly curetted, the effort being made to remove the malignant tissue down to the normal matrix. The cervix was then packed with absorbent cotton, and the os closed by a single stitch, the ends of which were left long to facilitate traction. The cul-de-sac was first opened with a knife, the incision being carried well up to each broad ligament by means of scissors, the index finger of the left hand being used as a guide. Martin's method of uniting the mucous and peritoneal margins was found impracticable on account of the thickness of the divided septum. The anterior incision was difficult because of extensive adhesion to the bladder, and Schroeder's retroversion act was out of the question. It now became apparent that the anterior adhesions were very extensive, and that they could not be liberated through the ordinary anterior incision such as had now been made. I then concluded to complete the operation after the manner of Leopold, making the dissections on all sides of the uterus, and taking up the bleeding points as they were encountered. In pursuance of this plan, I carried the dissections to a depth of an inch or more



when by forcible traction I could bring the uterus sufficiently low to enable me to complete the separation of that organ from the bladder. This done, I endeavored to ligate the broad ligaments *en masse* by means of the bookbinder's knot, but found that the compression secured by that expedient was not sufficient to control the hemorrhage. From this point on, the points were simply divided and ligated as they were encountered, the bleeding from the minor vessels being controlled by a jet of water under which the operation was done. In all, fifteen ligatures were employed, and the hemostatic clamp was left *in situ* on one side. I should say, however, before dismissing the operation, that I was embarrassed by encountering a pelvic abscess on the left side of the uterus, and a little higher up on the same side, pyo-salpinx. It was in the management of these complications that the irrigator was particularly valuable, as, by forcible flushing their purulent contents were instantly washed away and this element of danger eliminated from the case. A myoma the size of a walnut was encountered on the opposite side of the uterus.

The after-treatment consisted of local applications of boracic acid, and lightly packing the vagina with antiseptic gauze, for the first three days. After this period, the gauze was discontinued and a large glass drainage tube was permitted to lie in the vagina to facilitate the discharge. Daily irrigations were kept up during two weeks. The temperature at no time reached 101 F. Full diet was allowed after the fifth day. The patient was dismissed at the end of the third week and left the hospital at the end of the fourth. Three weeks later, there was no discharge whatever, and the opening into the pelvic cavity, which was not closed by stitches, would hardly admit a No. 6 catheter.

The specimen showed the seat of disease to be limited to a comparatively small area, the centre of which is at the internal os. This area presented an indurated, granular appearance at the bottom of an excavation which extended entirely through the sub-mucous tissue into the muscular stroma of the uterus. The appearance at the time was quite characteristic of cancer. It will be observed that but a comparatively small portion of the uterine tissue has been compromised in the malignant process, yet the seat of disease, extending as it does well above the internal os, is such that nothing short of total extirpation would have answered. The specimen shows that the dissection involved in separating it from the bladder was four and a half inches in extent, the posterior dissection was four inches, and the lateral dissections three and a half inches. A portion of the extra-uterine myoma will be observed adherent to the organ.

The points of interest are:

1. The unusual complications which were encountered.
2. The demonstrated fancifulness of certain hard-and-fast rules of technique laid down by certain authors, such as Martin and

Schroeder, and which were clearly inapplicable under the conditions presented in this case.

3. The complete restoration of the vaginal vault without closing it with stitches.

4. The prompt reaction from the operation and the even after-history of the case without the least medication.

5. The practicability of the complete removal of the cancerous tissue when the disease is limited to the interior of the uterus, and the hence demonstrated value of early operations.

6. The latter operation raises the question as to the recurrence of the disease. Of course, so far as this point is concerned, my report of this case is premature. My apology for presenting it at this time is, however, to add another, although a brief chapter to the comparatively early history of an operation which, like all others, must find its first vindication in its demonstrated surgical expediency.

DR. PALMER said he would address his remarks at first to the specimen presented. We all are aware of the changed appearances of morbid specimens some time after removal, but judging from the present appearances, the doubt arose at once in his mind as to whether it was malignant. Of course, this patient had some symptoms of malignant disease of the uterus, but a similar group of symptoms may be present when the disease is benign. He would not be willing to rest the verdict on any microscopical appearances. The microscope is only a help, and possesses great value in diagnosis only when taken in conjunction with other evidence. If this disease of the uterus was not malignant, of course, the operation was unjustifiable, and as the disease, whatever it was, seems to have been limited entirely to the cervical canal below the internal os, would not exsection of the whole cervix have sufficed? In conjunction with this last remark, we must bear in mind that no one can always accurately determine the extent of upward movement of the disease, and a total extirpation, in place of a partial extirpation, of the uterus, might have been warranted as a more sure procedure for thorough removal of the disease.

The specimen looks to him like one of benign granulations of the cervical canal. It is not improbable it would have undergone malignant degeneration; but if benign, might it not have been treated by a thorough scraping with the sharp curette, and free cauterization with chromic acid?

The speaker believed in the local origin of cancer, and thought that not a few cases of epithelioma were conditions of benign granulations at first, and continued so for an indefinite time. It was difficult to determine when the transition occurs. For several years he had placed considerable reliance on the results of a short, tentative treatment, to diagnose local cancer of the uterus in its earliest stages; benign conditions almost invariably respond to local treatment in a very short time, while malignant ones almost as certainly grow worse.

The speaker said that the objections against local extirpation of the uterus for cancerous diseases confined to the organ were fast giving away. The mortality of the operation was diminishing, the operation is easier because of a better understanding of it,

and an improved technique. The only open question now is: the future of these patients. Do they live longer, and do they have more comforts, if they die finally from a recurrence, than if no operation had been made? It will take further time to fully clear up this point. He was enthusiastic about the future of the operation of total extirpation in proper cases.

DR. REAMY, after a careful examination of the specimen, expressed the opinion that, in the case reported, the disease would not return, because it was not malignant. He would frankly admit, however, that it is difficult to make a positive diagnosis of cancer in its early stages unless the disease be confined to the os or cervix. With the cachectic symptoms in this case as described by the essayist, it was perfectly natural to assume malignant disease. A microscopical examination does not confirm the evidence of cancer. If it had been malignant, the granular tissue could not have been entirely scraped off, leaving a smooth base.

Here, in cervical mucous membrane just below the os internum, is a small point of roughness: evidence of the curetting. There has been partial destruction of the membrane, but it will be noticed as healing in a perfectly healthy manner, as does not occur after removal of cancer. The underlying structures are not indurated, but are perfectly normal. Except as above, there is no perceptible change in any part of cervix. Then the point named is just below the os internum. It is seldom that cancer primarily attacks the cervix thus. Usually the invasion is from below or above. Attention might be called to the fact that adjacent structures, portions of which were removed, and are here attached, show no evidence of disease. The specimen should, in the speaker's opinion, have been referred to a pathologist.

The speaker must say he could not regard the case as one of cancer. But the report of the case shows the extreme difficulty, in certain instances, of arriving at a correct diagnosis. He would himself, doubtless, with the clinical history given by the reporter, have made the same diagnosis as was made by that gentleman; possibly he might have removed the uterus; though, in cases where he believes the disease confined to the cervix, he prefers high amputation of the same. All recognize the skill and ability both of the operator in this case and of the gentleman who made the microscopical examination; hence the greater interest and instruction to be found in it.

As to the technique of the operation as detailed, the speaker was not surprised that the operator found difficulty in retroverting or anteverting the uterus, since up to the time of attempting it the uterine attachments had been divided on neither side. Of course, under such conditions, version forward or backward is impracticable. Moreover, the operator had attempted retroversion before separating the uterus and bladder. This is likewise impracticable. The uterus must be liberated by dividing its more important attachments before the version is attempted.

The speaker had made the operation of vaginal hysterectomy in all eight times. His greatest solicitude is fear of ligating the ureters. If the division of lateral structures is sufficiently far out from the uterus to insure removal of all disease, it is difficult in many instances to avoid ligating the ureters. The speaker had found it more satisfactory to adopt the method of Fritsch: anteversion, rather than retroversion as practised by Schroeder and Martin.

Speaker believes that in all cases the ovaries should be removed if possible. As to the immediate dangers of the operation, he had not observed the shock ordinarily to be as great as after laparotomy.

DR. WENNING remarked that he was not surprised at the previous speaker's doubts as to the malignancy of the specimen presented. He could testify that the appearance was considerably altered since the date of operation, although he would admit that even then the extent of the disease was not found to be so great as the clinical symptoms led all who witnessed the case to suspect. The history of the case, as well as the examination, pointed to an almost positive implication of the corpus uteri in the disease. The speaker, truly, did not see the case until the time of operation, but the cachectic appearance of the patient, her own description of her symptoms, and the operator's narration of his examination, together with the microscopist's report, all these factors taken together pointed without a doubt to the existence of malignant disease and hence rendered hysterectomy, as an only hope of cure, justifiable.

DR. GEO. E. JONES, who had also been present at the operation, simply added his testimony to the facts as given by the reporter of the case. He thought we could never be certain of having removed all of the cancerous tissue, even in carcinoma of the cervix, until the whole organ was extirpated. Some three or four years ago he amputated the neck of the womb for cancer under the impression that he had removed all of the diseased structure, and yet in six months the patient died of cancer. The question presented itself to him at once if it would not have been better to have extirpated the whole organ. Recently he amputated the neck of the womb in another case where the eroded cervix bore a suspicious look; but here there was a distinct line of demarcation, whilst in the former there was not.

DR. REED remarked, on reply to several criticisms on the alleged malignant nature of the disease, that the specimen was macerated in water for ten days, which of itself was sufficient to soften and destroy what cancer cells might have been left in the infected area after the vigorous curetting to which the parts had been subjected at the beginning of the operation. It was afterwards placed in a solution of arsenious acid and carbolic acid, and finally in alcohol, and as a result, he regretted to say, the specimen was practically destroyed so far as the purposes of pathological demonstration were concerned. He promised to take better care of his specimens in the future and hoped to present them to the Society in better condition. To his mind the diagnosis was unequivocal and positive; first, on account of the age of the individual; secondly, the change in her general health; thirdly, the local macroscopic characteristics of cancer; and, finally, the microscopic examination at the hands of one of our ablest microscopists. Then, too, after the patient had consulted her physicians in Boston, she visited various physicians, until she came under the treatment of Dr. Barnesfather, who curetted the uterus repeatedly, and yet the disease was recurrent. The granulations springing from the comparatively limited infected area were so exuberant that they occupied the whole uterine canal. The speaker secured at least a half an ounce with his finger and none of it looked benign. The growth was not consistent enough to be myoma. The granular surface observed immediately after the operation could not depend for its

appearance, as one speaker had stated, upon the benign granulations of repair, as the curetting had been done at the time of the operation. As regards the technique of the operation, the speaker thought it was not always safe to antevert or retrovert the uterus before removal, on account of carrying some septic material into the field of operation. He agreed, however, to the expediency of removing the ovaries, if this was possible without dangerously complicating the operation; but, in the case reported, he feared the risk would be too great.

DR. REAMY stated in reply that the last remarks of the essayist sustained the diagnosis given by the speaker. A careful examination of the specimen convinced him that neither end of the uterus was of a cancerous nature; either body or cervix. It is true that water might change the general appearance of the tissues, but would certainly not destroy cancerous structures. According to the statement of the reporter of the case, he removed malignant granulations from the body of the uterus, and yet it is evident that the endometrium was healthy. He must certainly be mistaken in regard to the condition of the womb high up. The speaker would admit, however, that any one was liable to make a similar error. Some time ago, the wife of a physician was referred to the speaker by a distinguished surgeon who asserted that the case was one of epithelioma of the cervix. This patient went to New York, and trachelorrhaphy was performed upon her there by a distinguished gynecologist for simple laceration of the cervix, after which she recovered perfectly. To offset this case, however, the speaker performed the same operation upon another patient whom a most distinguished New York gynecologist pronounced affected with cancer of the cervix; this patient also got well and later had a child.

In conclusion, he would remark, however, that he would not criticise the justifiability of the operation in the case reported. After hearing the testimony of the competent gentlemen who witnessed and examined the case, the speaker was sure that he would have operated in the same manner.

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

Wednesday, June 6th, 1888.

JOHN WILLIAMS, M.D., *President, in the Chair.*

*Specimens*:—DR. HERMAN. Uterus inverted by a gangrenous fibroid.

DR. W. DUNCAN.—Male infant secreting milk from right breast.

DR. AUST-LAWRENCE.—Vesical calculi removed from a woman who, for eighteen years, suffered from complete prolapse of the uterus.

DR. BRAXTON HICKS.—Form of Hodge's pessary made on watch-spring pessary principle.



*Inverted uterus removed by operation.* A report was read on Dr. Horrocks' specimen of inverted uterus, exhibited at the May meeting.

#### NOTE ON THE USE OF ELECTROLYSIS IN GYNECOLOGICAL PRACTICE.

By DR. W. E. STEAVENSON.—The author in this paper draws attention to the numerous cauterizing agents used in gynecological practice, with the object of raising a discussion on their relative merits and values. Reference is also made to the use of the actual cautery, Paquelin's cautery, and the galvano-cautery, but the paper is chiefly devoted to advocating a more extensive use of electrolysis.

It is pointed out that this property of electricity is especially useful in the treatment of affections in parts difficult of access, and perhaps finds its widest field for usefulness in the treatment of those diseases of women in which local applications are necessary. It is a more efficient and elegant way of applying caustic than any other that we possess; it can be most accurately localized at the part it is wished to affect: the amount used and the extent of tissue to be destroyed can be regulated to a nicety, and its action can be commenced and arrested at any moment at the will of the operator. A brief account is given of the action and theory of electrolysis, and of the batteries and instruments to be employed.

Its action and the method of employing it in the following affections are then given, viz.: stricture of the female urethra; stenosis of the os uteri or cervical canal; dysmenorrhea and sterility, in the place of the tents, dilators, or incisions that are often employed; abrasions of the cervix uteri; extra-uterine fetation; fibroid tumors of the uterus, and cancer.

The author then again invites discussion on the relative merits of other caustics and modes of treatment employed in the affections mentioned as compared with their treatment by electrolysis.

Additional cases illustrative of the subject of the above paper are appended in papers furnished by Drs. Lovell Drage and Gibbons.

#### CASES OF CHRONIC CERVICAL CATARRH TREATED BY ELECTROLYSIS.

These cases, read by DR. LOVELL DRAGE, formed an addendum to Dr. Steavenson's paper. In all, the healing of the abraded area was promoted. In one instance, where the chronic condition of the cervix was complicated by a Hunterian chancre on that part of the uterus, the beneficial effect of the treatment was well marked. No untoward effects were produced by the electrolysis, menstruation was not interfered with, nor was pain caused, either at the time when the current was passing nor subsequently. All the cases were of long standing, and other treatment had failed to give relief. Dr. L. Drage therefore contended that a claim could fairly



be made for the recognition of electrolysis as a useful treatment in such cases.

#### ELECTROLYSIS IN SOME CHRONIC UTERINE AFFECTIONS, WITH ILLUSTRATIVE CASES.

By DR. R. A. GIBBONS.—The author related cases which had been under his care as in-patients at the hospital, of chronic metritis, endocervicitis, lupus minimus, caruncle of the urethra, and cancer of the uterus. The latter was accompanied by profuse hemorrhage and were mentioned in order to call attention to the efficacy of the positive pole in arresting bleeding. After explaining the action of each pole on the tissues, the author dwelt upon the advantages derived from the use of the negative pole as a caustic in chronic inflammatory conditions of the body and neck of the uterus. The glairy discharge, so common in this class of affections, became electrolyzed and thus the lining membrane could be acted upon directly and thoroughly. The accuracy with which the application of electrolysis could be made was greater than that of any caustic. During manipulation, the operator had no difficulty in keeping the electrolytic power under his perfect control. After giving technical details, Dr. Gibbons dwelt on the necessity of a reliable galvanometer. This method of employing electrolysis had never been described in any English work.

#### THE CONSTANT CURRENT IN THE THERAPEUTICS OF GYNECOLOGY.

By DR. J. SHAW.—This paper describes the appearances presented by a myo-fibroma when subjected, about twelve hours after its removal, to the prolonged action of a constant current, and treats of the chemical and microscopical results observed in a subsequent experiment; also of certain attendant electrical phenomena.

The different action on granulations of the positive and negative poles respectively is described, and the effects of the constant current in intra-uterine applications and punctures, on the circulation, temperature, sensibility to pain, and urinary excretion, are in turn detailed.

The author, from these observations, concludes that the constant current acts on a fibroid in a threefold manner: (1) To but a small degree by electrolytic action, the positive pole most affecting the cellular and the negative the formed elements; (2) by the hemostatic action of the positive pole and the derivative influence of the negative; (3) by increased arterial tension and so diminished nutrition accompanied by some alteration of the mutual relation of the fluid and solid elements.

In the discussion which followed the reading of the above papers, Dr. HORROCKS noted the important admission of Dr. Steavenson that electricity possessed no specific virtues, but acted as a stimulant, caustic, or cautery. A powerful battery was expensive, pon-

derous, and hard to work and to keep in order, hence in general practice it would hardly be preferred to acids, alkalies, the knife, or the thermo-cautery. In hospital practice, he had found the battery to be of certain value; but he agreed with Dr. Steavenson's admission. Even in the treatment of paralysis, careful friction of the affected muscles proved as beneficial as electricity. Statements about the number of cells which were used in a given case were unreliable, for newly charged cells were stronger than the same cells charged for some time or not in perfect working order. A means of measurement was absolutely necessary; for this purpose a galvanometer answered best, but that appliance introduced another complication and expense.

DR. AUST-LAWRENCE said that allowance must be made for rest in bed, purgation, and the altered conditions to which a patient under treatment by electrolysis was subjected. A highly-trained electrician was not indispensable, as, with a little help and study, anybody could master the details sufficiently to be able to employ electrolysis, but, on the other hand, a fair knowledge of gynecology was absolutely necessary.

DR. HERMAN insisted on clinical observation; the utility of electricity could not be ascertained by *à priori* argument. He, therefore, considered that the most instructive parts of the communications read that evening were the cases reported by Drs. Lovell Drage and Gibbons. Dr. Matthews Duncan taught that if a cervical erosion could not be cured within two months, treatment had better be discontinued. Yet Dr. Drage's cases had been under treatment three or four months. In the case of Dr. Gibbons' patients, the improvement might have been simply due to the complete rest and appropriate diet which patients enjoyed in a hospital. Women subject to the minor diseases of their sex could not rest at home, if poor; in hospitals they could rest and be cared for; to this fact was largely due the great benefit which followed treatment in hospitals. The course of Dr. Gibbons' cases after leaving hospital had not been stated; in some, at least, all the symptoms might have returned within a few weeks. In one case, a urethral caruncle had been destroyed by two applications of electricity. By the older methods, one was usually sufficient. Dr. Herman admired the candor with which the results of the cases had been reported, but he did not think that the prognosis of such cases would be much modified by the introduction of this method of treatment by electricity.

DR. WILLIAM DUNCAN said that much more carefully recorded clinical evidence was needed. He had employed electrolysis in several cases of myoma, with marked benefit in those where the chief symptom was metrorrhagia, and in one instance, at least, the tumor was markedly diminished in size, which proved that the electricity was something more than a mere cauterizing agent.

The discussion was adjourned until the next meeting.

## REVIEWS.

---

**INTUBATION OF THE LARYNX.** By F. E. WAXHAM, M.D., Professor of Otology, Rhinology, and Laryngology, College of Phys. and Surg. of Chicago; Clinical Professor of Laryngology and Rhinology, Chic. Ophthalmic College. Pp. 110; 8vo; Chas. Truax. Chicago: 1888.

Intubation of the larynx was first performed by Bouchut, of Paris, in 1858. His efforts were so unsatisfactory and the procedure was so bitterly condemned that it dropped into oblivion until 1880, when O'Dwyer, unaware of the previous effort and failure, began to experiment in the same direction. His efforts met with success, and from him Waxham obtained his first set of instruments. To O'Dwyer belongs the fame of the practical inception of the operation, and to him and Waxham equally the honor of its development and introduction to the profession.

Meeting at first with great opposition, intubation has now become so thoroughly recognized as a practical and successful procedure that it has become a duty the medical profession owes to the public that at least one physician in every town or village should possess the necessary instruments, pluck, and skill to successfully perform it. Comparative statistics already show that intubation is not secondary in importance to tracheotomy, for not only is the operation permitted where tracheotomy would not be allowed, but after operating we can save as large a percentage of cases at all ages and a much larger proportion under the age of three years. As the operation requires a maximum amount of manual dexterity in order that it may be performed gently and quickly, it necessarily follows that one cannot become an expert without some practical experience, and cannot reach the highest degree of perfection without a great deal of it. The more knowledge, therefore, that one possesses of intubation and of the anatomy of the larynx the easier will it become to acquire its technique. Everything about the operation is described fully, very clearly, and concisely by Dr. Waxham; he also giving the history, the after-treatment, a record of cases, and comparative statistics. The work is well illustrated, clearly printed on heavy paper, an honor to its author, and should be widely read.

**LESIONS OF THE VAGINA AND PELVIC FLOOR, WITH SPECIAL REFERENCE TO UTERINE AND VAGINAL PROLAPSE.** By B. E. HADRA, M.D., Austin, Texas. With eighty-three illustrations. Philadelphia: Records, McMullin & Co., Ltd. 1888, pp. 329.

This is an instructive and useful little work to be recommended to all practitioners who have not yet mastered the mysteries of the pelvic ligaments and uterine supports, and the train of displacements which follow their injury. The author has made a special study of the pelvic diaphragm and its lesions, and, while quoting from the best modern authorities, is not wanting in original ideas

and suggestions as to the causes and operative treatment of utero-vaginal displacements. His chief surgical object appears to be the restoration of the pelvic septum or diaphragm.

His experience with Alexander's operation for shortening the round ligaments seems slight, and perhaps, therefore, unsatisfactory. "Wylie's operation" for narrowing the posterior vaginal wall and repairing a lacerated perineum is described at length, but the author does not seem to appreciate that this method is really nothing more than the old "butterfly denudation" with the labia so separated as to put the posterior vaginal wall on the stretch and form a quadrangular wound. It has no claim to be considered a separate operation. The illustrations of Emmet's "crescent" denudation for rectocele (p. 158) are very misleading.

The author repeatedly makes the mistake of reproducing operations and devices under the name of the writer who described it, but was not its author; thus, "Hanks' method" of complete perineorrhaphy is really that described by Emmet and Thomas. The plate of Tait's perineal operation, on page 233, does not convey to us, who have performed it, any idea of the real technique. In the appendix, on page 303 seq., however, the operation is correctly described and illustrated after Saenger's recent article.

The author's intention is, we hear, to issue a new edition. If he will revise the present work carefully and omit many unnecessary quotations of obsolete or unpractical methods, he will furnish a readable and valuable work for which, we think, there is a place in our medical literature.

DU DÉTROIT INFÉRIEUR MUSCULAIRE DU BASSIN OBSTÉTRICAL. Par le DR. HENRI VARNIER, Ancien Interne des Hôpitaux et de la Maternité de Lariboisière. Paris: G. Steinheil, Editeur. 1888, pp. 129, with sixteen large outline plates.

This is one of the large, inconvenient monographs, for which there is no place on our book-shelves, containing very painstaking and elaborate anatomical researches on the action of the muscles of the pelvic outlet during labor, illustrated by accurate section plates of the appearances at various phases of that process. The plates can hardly be described in a review, but must be studied with the text in the original. The professor of obstetrics and the experimenter in obstetrical dynamics may find such an article interesting; the practitioner has no use for it.

---

## CORRECTION.

IN the Transactions of the Obstetrical Society of New York, published in the July number of this JOURNAL, while discussing Dr. Mackenzie's paper on "Chronic Pelvic Abscess Opening into the Rectum," I am made to say on p. 717, "If the abscess cavity extends, make an incision through the abdominal walls and drain into the rectum from the vagina." It would seem self-evident that I made no such statement, and I would not trouble myself to correct it, were not the question of the superiority of vaginal over rectal drainage one of the points under discussion, and a point on which I wish to be correctly reported.

The error was overlooked in correcting the proof. What I said, and what I believe and practise, is: "If the abscess cavity extends so as to point upward, make an incision through the abdominal walls and *drain into the vagina*." I have frequently operated in this way, and always with the result of the speedy closure of the rectal opening and of the abscess cavity.

Further, I am quoted as saying that "Dr. Byford recommends rectal irrigation, which is bad; I would irrigate by the vagina, if possible."

This should read: "I would *drain and* irrigate by the vagina."

I believe vaginal drainage of pelvic abscesses to be always superior to drainage per rectum.

I will also add that while I stated at that meeting that "I have been afraid to pass a dilator into a pelvic abscess" through a "small incision" in the vaginal roof for fear of rupturing a blood-vessel, or the bladder, I have since used the dilator very satisfactorily in several cases, slipping in a rubber drainage tube between its branches, after the abscess cavity had been emptied and disinfected.

PAUL F. MUNDÉ.

July 23d, 1888.

**THE AMERICAN  
JOURNAL OF OBSTETRICS  
AND  
DISEASES OF WOMEN AND CHILDREN.**

---

---

**VOL. XXI. SEPTEMBER, 1888. No. 9.**

---

---

**ORIGINAL COMMUNICATIONS.**

---

**THE SO-CALLED PHYSIOLOGICAL ARGUMENT IN  
OBSTETRICS.**

---

BY

**HENRY T. BYFORD.**

Lecturer on Obstetrics in Rush Medical College; President of Chicago Gynecological Society, etc.

---

IN the April number of this JOURNAL was reported an address entitled the "Physiological Argument in Obstetric Studies and Practice," in which it is attempted to show that the management of labor upon the principle that it is a physiological process is not good practice, or, to use the orator's words, "to show that the physiological argument is fallacious." I have already placed myself somewhat voluminously on record as a partisan of the physiological or natural manner of managing labor, and had desired to court the good-will of the profession by henceforth keeping silent upon the subject. But when I see the most intelligent in the profession confounding truth with error, and fact with fiction, the danger that the less thoughtful will become deluded by their honest sophistry, and the lying-in woman become a still greater victim of meddling practices, makes it impossible for me to hold my peace.

At the very outset (p. 370, last line) the teachers of the



natural school of obstetricians are made to say, "The birth of a child is a physiological process, and therefore requires no assistance. Expulsion of the after-birth is a physiological process, and therefore requires, in natural cases, *no assistance*. The lower animals—the dumb beasts—bring forth their young without artificial aid, why should not the nobler organism of a human female do the same?" (*Italics mine.*)

The author, not to misrepresent those he opposes, should have used the word *interference* instead of *assistance*. Even the beasts and savages get assistance from their mates during late pregnancy, labor, and the puerperal state, in the form of food, protection, comfort, etc., while no one denies that civilized woman in labor, naturally and physiologically requires *assistance* according to her surroundings. He might have said "assistance that directly hastens, retards, or modifies the course of labor;" but, as it is, he has started out with an unfair statement of his opponents' views. Hence his arguments, as might be expected, bear less upon the views of his real opponents than upon the extreme views he has attributed to them. He plays the part of a skilful duellist fencing with an effigy, and he plays so well and so earnestly that both his audience and himself come to believe that he has transfixed something live and substantial.

Notice how artfully, or, rather, how naturally (for he is sincere) he brings his audience to think that the physiological or natural school takes labor in animals as the model for labor in women. He commences with the statement, just quoted, about the lower animals, and, as he proceeds, repeatedly refers to them (*vide* p. 373, lines 5-7, 15-16, 20-23, 30-38; p. 375, lines 25-28, 34-35), and culminates on page 377 with the following full-fledged misrepresentation: "Finally, natural labor in woman is often compared, as I have said, with parturition in the dumb animals, and the inference is drawn that one ought not to need assistance *more* than the other." (*Italics mine.*) He has gone too far, and made a premise out of what no one before ever thought of using as anything but an illustration, and which was so used in his first statement. But the fallacy is developed so gradually, stated so boldly, and the subject afterwards amplified so ably that the effigy becomes animated, and is vanquished with a flourish that deceives the audience into believing the real opponent honorably overcome.

Thus throughout the whole discourse are his opponents not only misrepresented in a general and imperceptible manner, but his hearers are misled by specific statements. It is maintained (p. 372, l. 24) that "a case of perfectly natural labor must be, in great part, a *hypothetical case*, or rather, it must be a case made up, so to speak, of fragments of normality, some taken from one woman, and some from others, which, when properly put together, reproduce the ideal type of a perfect specimen now almost extinct." Here are confounded the natural with the ideal. A Greek artist is putting perfect parts together in one statue, and will not allow any statues to represent natural, healthy beings which are copied entire from living individuals. But the orator is perfectly logical and true to himself, for the woman who bears children nowadays is, according to his words, the "pampered daughter of fortune, whose food is purchased with inherited gold, whose muscles languish and wither in idle inactivity, and the powers of whose spinal cord are soon exhausted" (p. 373). Again: "The muscles of the abdominal wall themselves are frequently atrophied from disuse, and perhaps deformed and enfeebled by the previous cramping and compression of corsets, belts, and skirt strings, which may have exerted their influence for years" (p. 376, l. 1). Again: "In the thin, idle, sedentary 'girl of the period,' we should no more expect to find a strong, muscular abdominal wall, etc." (p. 376, l. 7). "It seems that the reproductive organs have in some way undergone a sort of abasement or degeneration" (p. 383, l. 15). "No, I think we cannot escape the admission, civilized woman has undergone some degeneration as regards her capacity for propagation" (p. 383, fifth line from bottom).

Here we have in a new dress the old proposition that mankind is physically degenerating, and the sophistry consists in putting up the few degenerate victims of high society life in large cities as the representatives of the mass of civilized women. Let the author look elsewhere than in Washington and in large cities, and he will find plenty of healthy women in physiological labor—he might indeed have found plenty in Washington—but let him not put up an ideal labor, made up of an unnatural collocation of parts, as the physiological one to which all others must correspond.

Let us now examine in detail a few of the arguments as they

are advanced, and which are called "disturbing influences . . . almost universal." He claims that "the continuance of coitus after conception and during the greater part of pregnancy is a proceeding entirely outside the bounds of physiology, the parallel of which cannot be found in the whole animal kingdom" (p. 373, l. 3).

If it is not already known, it may easily be ascertained that both the bitch and the house cat do at times solicit intercourse after impregnation has occurred, and sometimes even after the belly has become notably enlarged. The same is often true of the human female, and why not elsewhere in the animal kingdom? Indeed, why not everywhere?

Corsets and the "artificial appendages of dress" are next cited. Corsets tend to alter the direction of the lower ribs, but just how their effects prevent the fundus from finding accommodation in the abdomen, or otherwise interfere, requires explanation. The fact is that the majority of women have not much deformed themselves by corsets, nor do they, as a rule, wear them during the later months of pregnancy, except, perhaps, for a short time each day.

He says (p. 373, l. 18), that "a woman remains 'nine days' on the bed. Do the animals wallow for nine days where *they* have been delivered? Emphatically not, even though the spot be the cool antiseptic (?) earth." (Interrogation point mine.)

It must be remembered that the life of most animals that we observe is from one-eighth to one-third the length of the life of man, and that utero-gestation, labor, involution, development of the young, etc., are also comparatively short. Then it must not be expected that a cat or a mouse, with a pregnancy of a few weeks only, should wallow for *nine* days. Two days would be a proportionate period for them, nor do they get upon two legs and carry their offspring in the other two limbs, and thus put the uterus in a dependent location with regard to the general circulation, as a woman would have to if she were to get up and help herself; but they maintain horizontal positions and keep as quiet for the first two or three days as circumstances will permit, and spend much of that time lying with or near their young. Larger animals, like cows and mares, with whom involution is slower, get up on all fours to eat, but they remain quietly near their offspring, and do not do much more in the

way of using their muscles than might the majority of mothers in bed. The mass of women in the civilized world have no bed pans, but sit up or get up to pass their excretions; and unless kept down by orders will move about in bed freely, sit up a little in bed after four or five days and get out of bed before the nine days have expired. And they do so naturally and physiologically. There need be but little real difference between the condition in the labor of the average civilized woman and that of the animal, except such as depends upon the natural difference in their organizations.

He goes on to say: "From the necessity of recumbency for some days following delivery, drainage from the uterus and vagina, by gravitation, is interfered with" (p. 373, l. 27). This assertion must fall with the last one. The necessity for *such* recumbency does not exist, except in the mind of the artificial school of accoucheurs. The woman lying on her side secures about as efficient drainage as the quadruped while standing.

The following argument is used (4th line from bottom): "The pampered daughter of fortune, whose food is purchased by 'inherited gold' has not a sufficiently 'strong nervous system and powerful muscles' like 'the animals,' 'barbaric women' and 'some of the poorer women of civilized communities.'"

If this means anything, it means that the last-mentioned class, which is by far the larger class in the world, does have the "strong nervous system and powerful muscles, by which the work of parturient labor is easily accomplished." It might here be remarked that these factors are not the sole ones upon which the ease of labor depends, particularly first labor.

On esthetic grounds, and as a means of preventing the bloating effects of what is sometimes put into the mother's stomach after confinement, and also not to be considered as captious, I will allow the argument of the binder (p. 375 to 376). Those mothers whose shoulders are fixed to the mattress for a week or so after labor, may be benefited by it as a feeble aid to that normal contraction of the abdominal muscles which would otherwise take place much better and much more efficiently through the influence of a greater freedom of motion.

An attempt is made to show (p. 380 to 382) that the diminished "seasonal variations" made by heating our houses

in winter, and by the abundance of all kinds of food at all seasons, withdraws natural influences that act upon the mother and fetus in animal life, and which are "conducive to safety during delivery and lying in." But the argument is, of course, only applicable in a narrow belt of each temperate zone, where winter is cold and summer is hot. Toward the frigid zones it is cold for about ten months in the year and then not very warm; toward the torrid zone it is warm for about ten months and then not very cold. In temperate climates these conditions exist only in large cities and railroad centres. I should suppose that even with the best of furnaces the seasonal variations would be felt much more in our latitude, which does not contain the majority of mothers, than in other parts of the globe. Do not the diseases indicate it? Farthermore many animals avoid the "seasonal variations" by migrating. Hence the diminished season variation, being neither general among civilized women nor peculiar to civilized woman, need not longer detain us.

He insists (p. 374 and 375) that "the very means which nature has provided and designed to promote placental expulsion are, in the civilized female, taken away from her (by the nurse and physician), and hence the necessity of some artificial substitute, which is supplied and rightly applied by the hand of the accoucheur." He says (p. 373, l. 12) that "almost every lying-in woman is subjected to digital examinations. . . . "Is this a natural proceeding?" And amplifies the argument (p. 376) by showing how the labor is prolonged by the withdrawal of the mucus by the examining finger; and again (p. 377 to 380), that the erroneous teachings which the mother receives tend to make the labor unnatural. He then sums up in these words: "Do what you will, civilized women of the present day cannot escape the deleterious agency of fashions, customs, laws, rites, methods, and practices that are propagated through the instrumentality of language."

It grieves me to say that no one can deny the truth of these last statements. It grieves me more to acknowledge that these truths, the only ones remaining to be answered, throw all the blame upon the physician and nurse. But it grieves me most of all that the only uses the author can make of these truths is an argument for still further interference with labor. He says not a word about avoiding those things which thus render labor unnatural; nor hints at the responsibility of the physician of the

past for these propagated "fashions, customs, laws, rites, methods, and practices;" nor dreams of his own responsibility for future popular practices; but only advocates more interference. Cure interference by interference is the meaning of his argument. For instance, he says (p. 374, l. 16): "But there is every reason to believe that what we have learned to do artificially on this point (in securing the expulsion of the placenta) would be done by Nature in a purely physiological state." He even goes on to show how Nature would accomplish it, and tells us how Nature's means "are taken away from her," and yet proposes, as the great desideratum, "artificial substitute." Even in the management of *pathological* conditions we first study to aid the natural processes by which the conditions are relieved, and remove all obstacles to their action; and then, in case an artificial substitute is required, we give it, but not until then.

Now, having found nothing in his argument to show that parturition in the civilized world is not usually a physiological process, except as it is rendered so by the *interference of attendants*, I beg leave to use his arguments as a plea for a reform in the management of labor—a reform that will render it once more a physiological process, though hardly his ideal one. If we reform our practices and teachings now, the fashions, customs, laws, rites, methods, and practices of future generations will be corrected. As a body, we pretend to enlighten the world upon medical subjects, yet individually too many of us play the part of mystics to our patients, and are often content, even eager, to use artificial substitutes, so it saves us time and trouble, and earns us glory and wealth.

I am sorry that the observation of the author should have been so much among the "thin, idle, sedentary," and "pampered" class that his evident high honor, lofty principles, and laudable desire to benefit womankind have not prevented him from arriving at conclusions which, if generally adopted, must exert a bad influence upon the practice of the great mass of obstetricians who treat a different class of patients.

In this review I have said what I could to counteract that influence, but would be understood as combating the argument only, not the orator's "principles," for we both "agree that the main source of progress in obstetric science, as in other departments of medicine, grows out of studying and understanding Nature" (p. 371, l. 31).



CROUP.<sup>1</sup>

BY

JOHN T. WINTER, M.D.,

Washington, D. C.

I HAVE selected the subject of *Croup* to bring before the Society this evening, not that I have any new facts to present, but having had a number of cases of the membranous variety, and they all having proved fatal, I bring the subject, hoping to provoke a discussion which will at least be beneficial to myself.

Croup was first described as a distinct disease by Dr. Blair, in 1718, but it was not until after the publication of Dr. Home, of Edinburgh, in 1765, that it came to be recognized as a special disease. Until that time, it was confounded with catarrh and other diseases of the respiratory apparatus. Dr. Home gave the disease the name of croup—an appellation by which it is universally designated at the present day. Since that time, many essays have been written on the pathology and treatment of this disease by distinguished gentlemen, both at home and abroad, but their views as to its nature, and the most certain and efficacious mode of treatment, are not uniform, and have not settled the question as to how the disease should be treated.

In 1811, Dr. David Hossak published a valuable essay on this disease, containing substantially the pathology of the affection, which has generally been adopted up to the present time. He maintains the inflammatory character of the disease, and says that in eighteen years' practice he has never met with a case uncomplicated with symptoms of local inflammation.

Croup may, therefore, be defined to be a disease of the laryngeal or laryngo-tracheal mucous membrane, in which inflammation or high vascular irritation is combined with spasm of

<sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, May 4th, 1888.

the interior muscles of the larynx, giving rise to peculiar modifications of voice, cough, and respiration. It is essentially an inflammation of the air passage, with hoarseness of a peculiar character. It is said to always attack the larynx, and extends generally to the trachea, and not infrequently more or less deeply into the bronchial tubes. Associated with the inflammation, there is almost always spasm of the laryngeal muscles. This inflammation may and does sometimes exist in the trachea without the laryngismus, even when the cough may be hoarse and grating, and even when exudations resembling shreds of the scum of boiled milk are found in the fauces, especially of patients who have recently suffered from measles or scarlet fever, and who have complained only of the annoying tickling cough. On the other hand, spasm of these muscles may exist independent of inflammation, constituting a distinct disease, laryngismus stridulus, which appears to be a local affection of the nervous system, caused by the irritation of dentition, or some disordered condition of the alimentary canal.

This disease, croup, is confined almost exclusively to infancy and childhood, and occurs usually between the first and fifth year. From the first to the fifth year is the period when children are particularly liable to catarrhal affections, and these affections are rendered more dangerous by the very great excitability of the mucous tissue in early life, and the imperfect development of the larynx and trachea, and the small size of the glottis. Of 330 cases reported by Andral, 21 were under 1 year of age, 202 were between 1 and 5 years, 71 between 5 and 8 years, and only 36 were over 8 years old. In Massachusetts, in 1852, 429 cases of croup were reported; of this number, 357 were under 5 years of age, 71 between 5 and 10 years, and 1 was reported as being upwards of 20 years of age. The health officer for the District of Columbia, in his report for the fiscal year ending June 30th, 1887, reports 25 deaths from croup during the year, 21 occurring before the 5th year, and 4 between the 5th and 10th years. The youngest patient I have found recorded as having had membranous croup was only 3 weeks old; I will refer to this case again.

Croup in its mildest form occurs most frequently to those children who have full faces and slender limbs, and are of delicate constitutions and nervous temperaments. Such children usually have clear, pale complexions, may be fat, but are rarely,

if ever, over-muscular. In such children, it may be excited by slight catarrh, over-play, or some slight exposure.

The disease is quite frequently preceded, for two or three days, by catarrh, with cough, hoarseness, sneezing, and suffusion of the eyes. After the continuance of these symptoms, sometimes for several days, febrile symptoms make their appearance, the pulse becomes frequent and hard, the skin hot and dry, the face slightly flushed, eyes red and watery, and the tongue white and loaded at its base. In perhaps the large majority of cases, the disease is ushered in suddenly, usually at night, the child awaking out of a sound sleep, with the peculiar loud, barking cough which it is scarcely possible to describe, but which cannot fail to be recognized after having been once heard: there is also great dyspnoea and harsh or whistling respiration. The voice is rough and hoarse, and the patient will sometimes complain of pain, pointing to the larynx, which is occasionally found to be swollen externally. Usually all the unpleasant symptoms abate in the course of from two to three hours, to return again the next night, but not so severely. Unfortunately, this is not always the case, neither does it always commence in this abrupt manner, but is of slower development, and drifts along for two or three days until the membranous form is developed.

Condie, in referring to these two varieties, says: "The patient, on retiring apparently in perfect health, is suddenly awakened from sleep with a violent fit of loud, ringing cough," etc.; and ten pages further on says: "True croup always commences gradually, the severer paroxysms never occurring until the disease has lasted for at least some short time," but he does not say how long this "some short time" must be.

Dr. Jacobi, of New York, uses the following language: "This much may be stated, and practitioners will admit the fact, that the affection will frequently commence in the milder form, and afterwards assume a more formidable character."

"The symptoms," says Wood, "are sometimes at first exactly those of catarrhal croup, and the difference is not detected until the voice begins to become whispering, and the cough to exchange its peculiar ringing sonorous character for a husky sound, and in the earliest stages, before secretion has commenced, it would be impossible to determine with certainty which form the disease was about to assume."

Dr. Peaslee says: "We need not, for any practical purpose

admit an inflammatory and membranous variety of croup, for croup is always inflammatory, and some cases are accompanied by the formation of false membrane. The formation of a membrane should not affect the treatment of the disease as an inflammation, but merely because of its mechanical effects. Its occurrence cannot be predicted in any case until it is actually seen, and this is not possible in most cases, even when it is developed at the very outset of the disease."

Of two men equally well informed, one tells us that while membranous croup is almost always fatal, the spasmodic and simply inflammatory form will almost as surely recover even without treatment; the other will tell us that they are essentially the same thing, and that the mildest variety, unless properly treated, will go on to membranous formation and death.

Without attempting to settle any of the questions involved in these different opinions, I have come to the following conclusions:

That croup is a special or single disease.

That its distinctive and essential character consists in an inflammation of the secreting surface of the fauces, larynx and trachea, and that the exudative inflammation commences invariably in the superior portion of the respiratory passage, and extends from above downward.

In speaking of croup as a special or single disease, I do not mean to say that it never accompanies or follows other diseases. I saw a fatal case, following measles, only a few weeks ago.

That form of the affection which has been termed spasmodic or catarrhal croup by some writers, is a variety of this malady and not a distinct disease. When children of a nervous temperament are exposed to the ordinary exciting cause of croup, and become the subjects of this disease, we have the spasmodic variety, the inflammation being of a subacute character, commencing frequently at night; and by morning, and especially after an emetic has been given, there will be a gradual subsiding of all the unpleasant symptoms. Unfortunately, as I have said before, the disease is not always arrested at this point.

In one instance, occurring in my own practice, there were decided remissions, the voice and respiration becoming quite natural at times; this continued for three or four days and nights, the child being quite comfortable during the daytime, but growing worse again as night would come on. After the fourth

night, the fever did not abate as it had done previously, and there was now decided hoarseness. The child died on the sixth day, having had, for the last twenty-four hours, all the symptoms of a membrane having formed.

The occurrence of short intervals of natural breathing which take place every little while in spasmodic croup, is not because there is no inflammation present, but for the reason that the inflammation at this stage of the disease is not of sufficient extent to embarrass respiration when the spasm relaxes, but as in my case the symptoms may return, growing gradually worse, and as the disease advances there is a membranous formation which gradually increases and becomes denser.

The remissions are now less complete, and are of shorter duration, and the cough and difficulty of breathing more severe. The pulse and respiration gradually increase in frequency and lessen in force. Death may occur suddenly during a fit of coughing, or more slowly from suffocation or heart clot.

M. Guersent, and other pathologists have shown from dissections in cases where this spasmodic form of croup has terminated fatally, that albuminous concretions, sometimes extensive, but more frequently consisting of small isolated patches, are found in the larynx.

Dr. Williams, in a treatise on diseases of the respiratory organs, says, "Although the effusion is generally thickest and more tough in sthenic cases, yet it is pretty abundant in asthenic cases, so much so that Andral and Gendrain consider plastic inflammation of the mucous membrane to be rather of the sub-acute, than of the most acute kind."

There is another form of croup, diphtheritic or secondary, which has caused considerable trouble to many medical writers. Some claim that membranous croup is purely a local disease, and secondary croup a constitutional affection, while others, such as Sir William Jenner, Dr. Geo. Johnson, Dr. Semple, and others claim as confidently that they are one and the same thing.

To me croup is a primary, local, non-contagious disease, the chief exciting cause being the impression upon the body, of a cold or damp atmosphere, or sudden transition of temperature, the disease being most prevalent during the variable and chilly weather which prevails in the commencement of spring or close of autumn, or during the thaws we have here in Washington

during the winter months. Several of my cases have occurred during the month of January, after comparatively warm weather. It may be produced at any season of the year when there is a sudden alteration of temperature. Sitting or lying on the damp grass, after becoming heated by exercise, or a sudden chilling of the body from any cause, may induce the disease, and as a rule children only are affected; while diphtheritic croup is a secondary, constitutional and infectious disease, attacking adults as well as children. The diphtheria itself, a local disease at first, is even in its local character eminently infectious, and is analogous to the septicemia of wounded men and puerperal women, and is dependent on some poison either generated within the body, or external to it, and is most insidious in its attack, being fully developed in many instances, and the patient still unconscious of any serious affection of the throat. In one instance, the little sister of a patient of mine died while sitting on the floor playing with her toys. Her parents had not even thought of her being sick; several members of the family were sick with diphtheria at the time.

Dr. Geo. W. Gay calls these affections primary croup, and diphtheritic croup, and says "these diseases often resemble each other in the following particulars: Both are of common occurrence in children; in both there is an exudation of false membrane; in both there is difficult respiration and impairment of the voice; in both a fatal result is common, and death is not infrequently caused by suffocation. The contrast between the symptoms of typical cases of the two varieties is indicated in the following groups:

## PRIMARY CROUP.

A local disease.  
Begins in the larynx.  
Not traceable to local cause.  
  
Neither contagious nor infectious.  
  
Membrane does not extend to nares.  
No symptoms of septicemia.  
No affection of lymphatics.  
Neither attended nor followed by paralysis.

## DIPHTHERITIC CROUP.

A constitutional disease.  
Begins in the fauces.  
Often traceable to bad drainage, etc.  
Both contagious and infectious before and after death.  
Membrane often extends to nares and other parts.  
Septicemia generally present.  
Lymphatics usually affected.  
Paralysis not infrequent.



The nomenclature of Dr. Gay seems to me to be correct, as he includes under the head of primary croup the two varieties, simple and membranous, and gives the other form its only proper name, diphtheritic croup.

A favorable termination may be expected when the form of the disease is mild, the frequency of the pulse moderate, when there is early and free expectoration, and when the respiration is comparatively quiet. A copious perspiration sometimes marks the commencement of returning health. An increased frequency and irregularity of pulse, with difficult respiration, purple lips, pale and cold cheeks, with drowsiness, would cause an unfavorable prognosis to be made. It is thought, too, that the younger the child the more fatal the disease is likely to prove. Death, too, is most likely to result in sthenic cases, where the disease develops rapidly, and this character of croup is more apt to attack the strong, thick-necked children, while in asthenic cases, when the membrane forms more slowly, or where croup comes on in the latter stages of diphtheria, a more favorable termination can be expected.

A new idea has recently been brought to my notice, and that is, that in all cases where a membrane is formed, the inflammation which produced it is arrested, and that while it was necessary to treat the inflammation before the formation of the membrane, it is necessary now to treat only the result. Is it possible that the forming of a membrane is a conservative act of nature? If so, it is in many instances very unfortunate for the little sufferer, for he is choked to death by the very effort nature is making to throw off the disease.

In the treatment of croup, prompt and decided action in the early stage is of the utmost importance. It is better, I think, to be a little too active than not active enough, for I am satisfied that many cases have been aborted, and have been termed simple croup, which if allowed to drift along without proper treatment, would have ended in the membranous variety, and, perhaps, in many instances in death.

The medicines and plans recommended by the various writers for the treatment of this disease are about as numerous as the writers themselves. The following are a few of them: Blood-letting, one ounce for every year of the child's age, leeches, cups, blisters, antimony, ipecac, sulphate of copper, subsulphate of mercury, sanguinaria, bal. copaiba, apomorphia, eo. syr.

squill, calomel, ether, bromide of potassium, chloral, chloroform, iodide of pot., nitrate of silver, muriated tr. iron, chlorate of pot., ice to neck and spine, quinine, lactic acid, pepsin, lime water, tracheotomy, and intubation.

These have now resolved themselves into what might be termed the operative and medicinal. The majority of the profession, I am inclined to think, yield to the operative, but it is time for more extensive and careful observations upon the results of the medicinal plan to be made.

Agnew says, "I am of the opinion that with American practitioners the recoveries without an operation are at least fifty per cent."

Meigs and Pepper report 15 recoveries out of 35 cases, mostly of the secondary variety, without operation.

J. C. Smith reports 7 recoveries out of 21 cases, of membranous croup, without operation.

Koff reports 77 recoveries out of 99 cases of membranous croup, without operation.

J. C. Brown, of Kentucky, reports 2 recoveries out of 3 cases of membranous croup, without operation.

This list might be largely increased if it were necessary. Meigs, and almost all the old writers, strongly advise the use of emetics. Alum, in 5 to 10 gr. to a teaspoonful at a dose, is one of the favorites. One advantage claimed for it is that it can be given several times a day without producing exhaustion.

Rillet and Barthez strongly advise the emetic treatment. They report that out of 31 cases of the membranous variety, 26 discharged false membrane and 15 were cured.

Koff, who reported 77 recoveries out of 99 cases of the membranous variety, used sulphate of copper, and claimed that it acted not only as an emetic but as an alterative.

Dr. J. C. Brown, of Kentucky, who reported 2 recoveries out of 3 cases, used pepsin in the two who recovered, but not in the one that died. After using in one case alum and ipecac, followed by iron and quinine in full doses, locally nitrate of silver and lime-water by the atomizer, and one-grain doses of calomel every six hours, he says, "The symptoms growing worse, I determined to try the solvent power of pepsin, and so gave my little patient 4 grs. of Shaffer's pepsin, in powder, with 2 grs. quinine every two hours, bathed him in hot water, and applied sinapisms to his extremities. In ten hours everything had changed for the better; at almost every act of cough-

ing large flakes of lymph were expectorated. In forty-eight hours the child's condition was so much improved that the cure was soon completed by tonics alone."

Prof. Fordyce Barker claims that there are but few cases which will not yield to turpeth mineral.

Topical medication was used to a considerable extent twenty-five or thirty years ago. To Dr. Horace Green belongs the credit of having introduced this method. He treated croup locally with nitrate of silver in sol. sixty grains to the ounce of rose water, and with a sponge probang would apply the solution not only to the fauces and opening of the larynx, but into the larynx and trachea, and in many instances into the right or left bronchus with as much ease and safety as the catheter is introduced into the bladder. He also established the fact that much less mechanical irritation is produced by the application of this strong solution into the larynx of young children suffering with croup than when it is introduced into those of adults who are suffering from chronic diseases of the larynx. The strength 60 grs. to  $\frac{5}{8}$  i. was found to be less irritating to the mucous membrane and to exert a more beneficial effect than a weaker one. He claimed that one application, if made early in the disease, would arrest the inflammation, and was usually enough to effect a cure.

Apomorphia is coming quite largely into use for this disease. Its prompt and efficient action, unattended as it is with nausea and violent retching, should make it a great boon to the physician as well as the patient, and its use hypodermatically will many times save a long and exhausting struggle with the little patient.

The alkalies generally are solvents of false membrane, and lime-water, being one of the most pleasant and manageable for internal use, is perhaps oftenest resorted to. Smith speaks highly of lime-water containing one and one-half per cent of liquor potassæ, which is to be used through a Stearn atomizer.

I have had six cases of membranous croup and one case of diphtheritic croup to result fatally, and two cases of the diphtheritic variety to recover. In all nine cases, eight males and one female, seven white and two black.

In one case three and a half years old there was an accompanying pneumonia.

In another case occurring about six weeks ago, the child, a boy three years old, had just gotten over measles. On calling at another patient's house one Sunday in March, I found this little fellow at least a mile from his home. He was not taken home till late in the evening. That night he had croup, but as he had had the simpler form a number of times, perhaps twenty times during his short life, his parents were not alarmed, but gave him the medicine, an emetic, which I had ordered on a previous occasion. The next day the child seemed almost as well as ever, but was worse again Monday night. I was telephoned for early Tuesday morning, and saw the child a little after ten o'clock, found him almost well again. He was quite uncomfortable Tuesday night, better again all day Wednesday, but very decidedly worse Wednesday night. I was called again Thursday morning, and on examining the throat found a little film over the left tonsil; by night he was quite ill, and the cough, of which there had been but little up to this time, became hoarse, and had a peculiar jarring sound. On Friday morning the film had entirely disappeared from his throat, but he was now coughing up shreds of false membrane every little while. He died Friday night, five days after the exposure.

About three years ago, I was called to South Washington, to see a boy two and a half years old, who had been sick with diphtheria for about ten days, and in whom croup had just developed. The physician who had been in charge had either been discharged, or had abandoned the case; the parents were German, and I could not understand just what they were saying about it. On examination I found a membrane covering the whole throat, and which seemed to extend not only into the nostrils, but down the esophagus and larynx. In this case I did not think any treatment could avail and did not advise tracheotomy, feeling that it would be useless. The child died the same evening, about an hour after my visit.

One of the cases I have referred to as recovering, was not properly my patient. I saw him in consultation, but not remembering the particulars, I asked the child's father to supply them, which he has done in a note of which the following is an extract: "On August 6th, 1880, while living near Falls Church, Va., our son Claud, six years of age, was taken sick with what the doctor called diphtheria. He gradually grew worse until the afternoon of August 15th, nine days after he was first taken sick, when croup set in. By night his breathing could be heard out in the yard. At two o'clock that night a messenger was sent to the city for you, to meet our doctor the next morning at ten o'clock. You came out and remained with us several hours. We lighted a fire in the child's room, and raised the temperature to nearly 90°, began slaking lime in the room, kept lime-water boiling on the stove, and occasionally had him inhale the steam from the boiling lime-water. We kept up this treatment for several days after your visit, and he gradually recovered."

On last Christmas morning, I was called to see the child of one of my neighbors, a little girl five years old, who three days before stood at an open window watching some member of the family who was at work in the back yard. For the next day or two it was noticed that she was not as sprightly as usual, and that she had some cough, not severe, but gradually growing hoarser. On Christmas morning I was called, and found her lying on a lounge, dressed, and playing with her doll babies which had been given her that morning. She was quite bright and talkative, but could speak only in a whisper, and with considerable effort, but apparently without pain. The features were darkened and swollen, respiration 30, pulse 120. I advised that tracheotomy be performed at once, but the family would not hear of it. I then asked for a consultation, but this too they thought unnecessary. I called several times during the day, to find the child gradually growing worse. About seven o'clock that evening I insisted on some physician being called in consultation, which was finally done at 7.30 P.M., and the family seemed much surprised that the consultant took as gloomy a view of the case as I had done. At eleven o'clock that night they agreed to allow an operation. I telephoned at once for Dr. Barker who had been with me only a few hours before, and to Dr. J. Ford Thompson, who had been notified earlier in the day that his services would likely be required. By twelve o'clock the operation, intubation, had been performed, and for about two hours the breathing, which had become very much embarrassed, was considerably relieved, but by morning was worse than ever. About ten A.M., the tube was removed, and by eleven o'clock, twenty-four hours after I was first called, the child was dead.

It would hardly be profitable to give a detailed statement of my treatment of these cases, as I have been unsuccessful in every instance of purely membranous croup. I have, however, had several of the diphtheritic variety to recover. In treating these cases I have endeavored as far as possible to preserve the strength of the patient, and have used two of the medicines, (muriated tincture of iron and chlorate of potassium) which were so severely condemned a few weeks ago by members of this Society, when the subject of diphtheria was under discussion. I have used emetics, mercury, opium, constant external applications of warmth and moisture to the neck, steam atomizer as faithfully as possible—using tr. iodine in sol., carbolized water, lime-water, sol. chlorate of potassium, have kept lime slaking in the room, or boiling on the stove, and have kept the room at a high temperature and loaded with steam.

The inhalation of steam from lime-water seemed to afford relief in all my cases, and after an emetic, in several instances,

the voice would clear up, and the breathing become quite easy for an hour or two.

And now quite an important question might be asked, Can we do any good by operative interference? This is a question that forces itself upon every one of us. Looking at the pathology of the disease, remembering that the inflammation frequently extends into the bronchial tubes, that serious dyspnea is caused by the exudation occurring in the trachea and bronchi, and that both tracheotomy and intubation have a tendency to produce bronchitis and pneumonia; still, there are times when operative interference seems absolutely necessary. Now what shall the operation be, tracheotomy or intubation?

The statistics of results from the operative treatment of croup are very extensive, and those of late years here in America are pretty uniform in character. Agnew has collected over eleven thousand cases, showing recovery in one-fourth of those operated on. Tracheotomy is not a very dangerous or difficult operation in itself, and the mortality following its practice is due in many instances to a weakened state of the system, as the operation is frequently not resorted to until the very last moment, when the patient is beyond the power of recuperation. We are advised by many to operate early, but I hardly think this is good advice, for we cannot early know that there is any necessity for operative interference, and then, too, death may occur from the operation by hemorrhage, by irritation, by bronchitis, by pneumonia, and by accidents caused by the struggling of the patient.

Intubation is comparatively a new operation; its most earnest advocates hardly claim that the operation has been fully developed, or the instrument perfected. Dr. O'Dwyer, in the *N. Y. Medical Record* for October, 1887, reports fifty cases of croup in private practice, treated by intubation of the larynx, with twelve recoveries. The danger of tubes slipping into the trachea has, I think, been very much underestimated by the profession. It is probable that when this accident occurs, we ordinarily hear nothing about it. Not long since I heard of a case where, after the death of the child, the tube was found in the bronchus. Dr. Ingalls, of Chicago, had an unfortunate case this past winter in a child he was treating; he used an ordinary O'Dwyer tube with a good-sized head; the child did well and seemed to have recovered, when on the fifth day he



attempted to extract the tube, he says: "As I had the tube nearly out the extractor slipped; I tried repeatedly, and the extractor slipped again and again, until finally the tube slipped into the trachea, and I had to do tracheotomy to remove it. The child died about two hours later."

Can we assume that the one out of four or five who has lived after being operated on, by either of these methods, was always saved by the operation?

While I must, and do admit the necessity at times of operative interference, I certainly do not think intubation can compare with tracheotomy. In my opinion we gain but little by passing a tube into the larynx, but the benefit derived from tracheotomy is twofold. It enables us to remove the false membrane through the opening, and to apply topical remedies, nitrate of silver for example, through the opening directly to the trachea and bronchial tubes.

The case referred to, as being the youngest patient I could find any record of, as having had membranous croup, and on which tracheotomy had been performed, was reported by Dr. Scoulette as occurring in his own family, to his own child only three weeks old. The operation was performed on the third day of the disease, under, the doctor says, "circumstances the most desperate with complete success, the infant recovering in a short time from the effects of the operation, as well as from every symptom of the croup."

#### REMARKS ON PELVIC PERITONITIS,

AND ON MY YEAR'S WORK IN ABDOMINAL SURGERY. (FORTY CASES.)

---

BY

JOSEPH EASTMAN, M.D.,

Indianapolis.

Professor of Gynecology, Central College of Physicians and Surgeons; Corresponding Member Philadelphia Obstetrical Society, etc.

---

From my experience of the past year, I feel warranted in emphasizing the importance of inflammations of the pelvic peritoneum, a disease very frequently overlooked, and more common than any other disease of woman's pelvis. Pelvic cellulitis,

according to the text-books, more frequently follows child-birth than pelvic peritonitis. Post-mortem examinations, and within the past few years abdominal sections, are making it more and more apparent that without some pre-existing peritonitis, the trauma of child-birth, and many other causes heretofore mentioned, would less frequently result in inflammation of the cellular tissues. Winckel found in thirty-three per cent of autopsies (for all diseases) well-marked inflammation of some portion of the pelvic peritoneum. Of five hundred and seventy-five post-mortem examinations, the same author found in one hundred and eighty-two cases, well-marked disease of the Fallopian tubes. This is an instructive statement, and should lead to the early and efficient medical treatment of salpingitis, which so frequently extends to other structures in consequence of the movements and periodical engorgement of the tubes. Nearly all post-mortem examinations of the chest show inflammation and adhesions of some portion of the serous lining. This being true, how much more likely would we be to find the results of inflammation in the serous covering of the female pelvis, a structure vastly more complicated anatomically, and physiologically much more abused. With a pathology until within the past few years little understood, therapeutics are vague and unsatisfactory.

The sharp, stitch-like pains, felt by young ladies before, during, and after menstruation are, as in the chest, significant of more or less inflammatory adhesion of the serous covering of some portions of pelvic structure. The term pelvic peritonitis may be applied to a circumscribed spot, or signify "co-existence of perimetritis, perisalpingitis, peri-oöphoritis, pericystitis, and periproctitis." (Winckel.)

The delicate silken membrane becomes opaque at first, and adheres to the same membrane nearest in contact: as the uterus, rectum, tubes, bladder, each recurring attack strengthening and extending the adhesions. Serum poured out undergoes chemical changes, forming abscesses in the broad ligaments, between coils of intestines, and by its progressive work of destruction materially impairing functions, sometimes causing complete intestinal obstruction, or again abscesses discharging into bowel, vagina, or through the external integument, seriously complicating ultimate cure.

*Causation.*—Congenital defects may so retard, modify, or

complicate menstruation as to cause inflammation of the serous covering of the undeveloped organ. The brain-cramming of our school systems has much to answer for in retarding the development of the pelvic organs in young girls.

Mr. Tait speaks of the eruptive fevers interfering with the proper development of the epithelial lining of the tubes. My limited experience furnishes several cases where abdominal section proved the existence of well-marked disease of the Fallopian tubes, the clinical history leading us unmistakably back to scarlatina which had so affected the epithelium of the kidney as to produce the well-known dropsical sequelæ of that disease. Recently demonstrated facts show that the Fallopian tubes undergo important changes at puberty, they become more highly vascular, there is increased development of their longitudinal fibres, and their mucous lining is covered with ciliated epithelium. Organs anatomically so complex as the Fallopian tubes surely have a susceptibility to disease far greater than has been heretofore believed.

Let us emphasize, then, the important causative relations borne by febrile disease to arrest of development of the pelvic organs in girls, organs imperfectly developed being vastly more susceptible to disease than those perfectly developed.

Saenger, of Leipsic, Noeggerath, of New York, and others, have emphasized the importance of gonorrheal virus as a cause of pelvic peritonitis. I must dissent from the *extreme* views of these men; at the same time I often shudder for the marriageable young ladies, when I remember what a large per cent of marriageable young men have suffered from gonorrhea and have been imperfectly cured, or rather, not cured at all. Few of them consult competent experts, but, on the contrary, get some "clap mixture" from a friend or druggist, ignorant of the fact that the skilful adaptation of a given remedy to the particular stage of the disease marks the measure of its success. In applying for a policy in life insurance, the applicant must honestly state all the diseases he has had. If a false statement is made, the policy may be forfeited. Oh, that parents could secure from young men truthful statements as to all the diseases they have had, when they ask the hands and hearts of their marriageable daughters!

The teaching heretofore extant that gonorrhea in the female

is less serious than in the male is wrong, *and must be rewritten*. I agree with Van Buren and Keyes who say "gonorrhea sends more to the tomb than syphilis," and let me add my belief that the same foul virus sends twice as many women to the grave as men. While the female urethra is less likely to suffer, the Fallopian tubes and ovaries furnish a secret lurking-place for the gonococcus, where its work of destruction is beyond the reach of remedial agents, at a stage of the disease when total annihilation could be hoped for. Means used to prevent conception, especially cold-water injections used after coition, cause many cases of tubal and ovarian inflammation. Induced abortion also produces much disease and many deaths from peritonitis.

*Treatment.*—Opium is the remedy in the beginning. It should not be continued in chronic cases, for fear of "the opium habit." Hot applications over the lower part of the abdomen, combined with hot antiseptic vaginal douches, with a Hildebrandt douche, this instrument enabling us to use water ten or fifteen degrees hotter than can be borne by the external parts, while it carries off the water without the aid of the bed-pan. It was not my purpose, however, to speak of treatment, except in the advanced stage of the disease, and by surgical means.

In case where each recurring menstrual period rekindles the inflammation, Battey and Tait have suggested the removal of the uterine appendages to relieve the pelvis of its periodical congestion, by bringing on the menopause. This is undoubtedly a warrantable operation in some cases, when all other means have failed. Some argue that the operation is being done too often. My limited experience induces me to believe that, where the uterine appendages have been unnecessarily removed once, ten women have gone down to the grave whose lives could have been saved by timely removal of the appendages, if the same were done by skilful hands.

Let those who condemn salpingo-oöphorectomy carefully consider the following propositions, using anatomical, physiological, pathological, and therapeutical common sense in so doing. If the ovaries and Fallopian tubes could, like the male testicles and epididymis, descend during early life, and remain within reach of poultices, iodine, suspensory bandage, etc., and if they were free from the regular monthly engorgement which

all the pelvic organs are subject to, they, too, might be relieved of congenital defects, physiological abuses, the destructive sequelæ of mumps, the fevers of childhood, and the pernicious gonorrheal virus, before disorganization had so far advanced as to warrant their removal. When inflammation has gone on to suppuration, whether pus has been discharged by the rectum, vagina, or not, the treatment instituted by Mr. Tait is a valuable means of cure, namely, opening the abdomen, draining the abscess (whether in broad ligament or between coils of intestines) from its fountain source, stitching peritoneal margins of abscess to abdominal wound, and putting in a drainage tube. There are many such cases with pus discharging from the rectum, or cul-de-sacs of vagina, safely curable by this method of treatment. I must say, after some experience in this method of treatment, that I prefer it to either plunging in a bistoury or trocar high up, or dilating vagina or rectum, and dilating the sinus even if the same is in reach, which it frequently is not, for the important reason that the former treatment in expert hands is less dangerous. Martin's method of drainage through Douglas' pouch may be more suitable in some cases.

## CASES.

CASE I.—*Pelvic abscess originating from pelvic peritonitis, communicating with rectum.* Over one quart of fetid pus removed from broad ligament at time of operation. Abscess sac stitched to wound. Glass drainage tube. Cure in seven weeks. Dr. A. W. Patterson was present at operation.

CASE II.—*Abscess had been discharging by rectum.* A pint of pus removed at operation. Abscess sac stitched to abdominal wound. Recovery perfect in five weeks. Dr. L. L. Todd present at operation.

CASE III.—*Chronic peritonitis following severe colic.* Abdominal cavity filled with inflammatory products, uniting the large and small intestines, in many places, into one common mass. Complete intestinal obstruction for six days. Separated adhesions of bowels, removing large quantities of pus from between coils of bowels. Drainage. Abscess sac stitched to abdominal wound. Recovery complete. Dr. J. F. Barnhill was present at operation.

CASE IV.—*Chronic salpingitis and ovaritis,* appendages firmly adherent to broad ligament. Disease of thirteen years' duration. Removed appendages, used drainage. Patient says she "feels better than for a dozen years," and has gained twenty-five pounds in weight. Dr. C. S. Boynton present at operation.

CASE V.—*Extensive chronic peritonitis.* Age 42. Abdomen nearly as much distended as at full term of gestation. Five pus cavities between the coils of intestine contained in all a quart of pus. Two cavities communicated by a common opening with sigmoid flexure of colon, through which pus had been discharging since last March. Separated adhesions in some places eight inches long. Abscess sac stitched to wound. Washed out cavity, peppered freely with iodoform, put glass drainage into sinuous opening, well down into colon. There were fecal discharges through drainage tube, and for several weeks after its removal. Patient cured, returning home to Worthington, Ind., December 17th, 1887. Dr. L. P. Mullinix, of Worthington, present at operation.

CASE VI.—*Large pyo-salpinx.* Age 30. Patient lived twenty miles from city, and could not be brought to hospital. Pelvic peritonitis involving ascending colon, bladder, uterus, and numerous knuckles of intestine. Organs named were massed together as one, producing complete obstruction of bowel. Operation one of emergency. Separated enough adhesions to relieve obstruction, bowels afterwards acting freely. Death from shock in twenty-four hours. Disease of six months' duration. Earlier operating would, perhaps, have saved life, as patient was much reduced by long-continued vomiting. Dr. H. S. Herr, of Westfield, present at operation.

CASE VII.—*Peritonitis, extensive cobweb adhesions on nearly all pelvic organs, distending abdomen as much as a fifteen pound ovarian cyst.* Separated adhesions, letting out as much as three pints of pus from the different cavities formed by adherent bowels. Recovery. Dr. A. W. Patterson present at operation.

CASE VIII.—*Pelvic peritonitis involving all pelvic organs.* Three sinuous openings in and near rectum, and one in vagina. Opened abdomen at night by coal oil lamp (being an emergency case). Drained cavity in broad ligament. Patient recovered. Dr. J. E. Morrow assisted.

CASE IX.—*Removal of ovaries and tubes for dysmenorrhea,* which had been accompanied by most excruciating cephalalgia. Patient had been in insane asylum for a year. Tubes sharply flexed and firmly held by contracting bands of inflamed peritoneal covering of tube and broad ligament; consequently tubes were immovable, and absolutely impervious. Patient recovered from operation and is now sound mentally. Dr. A. Maxwell was present.

Of the forty abdominal sections made during the year ending May 10th, in nine cases the pathological condition found had originated in *pelvic peritonitis*; hence the title of the paper, and the comments on pelvic inflammation.



Of my total year's work, sixteen sections were for abdominal tumors. Of this number four were for fibroids of the uterus weighing five, seven, and eight pounds respectively. One for fibroid of the ovary weighing six pounds. The remaining sections were for cystic and fibro-cystic ovarian tumors.

In a number of these cases, the tumors were large with extensive adhesions, notably one woman, whose weight in health was ninety pounds, travelled here from Oskaloosa, Iowa, with a cyst, which together with its contents weighed fifty-two pounds, adherent to entire anterior surface of abdominal wall as high as the liver on the right and the spleen on the left, so that absolute flatness on percussion was continuous with the organs named. First noticed tumor six years ago. She made a complete recovery, though I removed more than one-third of the combined weight of woman and tumor. She had been tapped several times, the last tapping nearly proving fatal. In another case, the cyst and contents removed by tapping at the time of operating, and ten days before weighed seventy-five pounds, the tumor being adherent to abdominal parietes and omentum. Patient could not be removed to my hospital, so I took an experienced nurse and operated at her home in Martinsville, Ind. She made a complete recovery, although she could not have weighed over seventy-five pounds after the removal of the seventy-five-pound tumor.

Two of my sections were cholecystotomies. Eight were for pelvic abscesses. Three were exploratory incisions, finding cancer in two of the cases. Ten sections were for removal of the uterine appendages in pelvic inflammation and other causes. One section was for hernia.

I have had three deaths from abdominal section during the year. One already reported. The second was an exploratory incision in a patient with forty pounds of fluid in the abdominal cavity, a ruptured cyst of left ovary, and well-marked mitral regurgitant murmur over heart. The fluid continued to pour out through drainage tube, patient dying seventy-two hours after operation, exhausted from the drain, and failure of the crippled heart. In the third case, a ruptured cyst with fifty pounds of fluid were found in the peritoneal cavity. Patient was in a hectic condition, vomiting for several weeks. Stomach retained fluid food after operation. She suddenly died from heart failure twenty-four hours after operation. This woman

had taken over one hundred bottles of "Warner's Safe Cure," hoping thereby to remove her tumor! I saw the empty bottles in the backyard. Shall we not, in view of such cases in the State of Indiana, continue our missionary work of publishing cases to the end that we may convince practitioners, and they their patients, of the advantages of early operating, and the dangers and deaths from delay?

These forty cases, added to twenty-five reported to the Indiana State Medical Society last year, make a total of sixty-five. In my twenty-five cases reported last year, I reported five deaths, twenty per cent of mortality. This year, in forty cases, three deaths or seven and one-half per cent mortality. From July 18th, 1885, to October 27th, 1887, I opened the abdomen thirty-four times consecutively without a death. If by this showing some good woman's life (perchance a mother's) shall be saved by abdominal section, that otherwise, fearing the operation, would have delayed until there was no hope, the author will feel that the apparent self-glorification in this report is excusable.

---

## INFLAMMATION OF THE SALIVARY GLANDS FOLLOWING LABOR.<sup>1</sup>

---

BY

GEO. N. ACKER, A.M., M.D.,

One of the Attending Physicians of the Children's Hospital,  
Washington, D. C.

---

IN the following short paper, I shall present the history of a very interesting case that occurred in my practice last year. I took full notes of the condition of the patient at the time, for I regarded the complication as a rare one. The works on obstetrics do not make any mention of it, and I cannot find any case reported of enlargement of the salivary glands after parturition, except as a part of puerperal fever, etc.

On account of the trouble being such a rare one, I shall make the subject more general by including all cases of inflammation of the salivary glands following operations on the genital organs.

<sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, April 6th, 1888.

On the morning of the 8th of February, 1887, Mrs. R., æt. 33. white, was delivered of a healthy male child. The labor was an easy one, so much so that she had failed to notify the nurse, and I found myself alone in the room with her when the child was born, the servant having been sent after the nurse.

The lady is of a very nervous temperament, and has a mitral regurgitant murmur. This was her fourth confinement, and she had had several miscarriages. She was in a good physical condition, and did not have any trouble during her pregnancy. The first two days passed away without anything abnormal being noticed. The bowels were moved, and lochial discharge good. Pulse 90; temperature 99°.

On the morning of the 10th inst., she complained of pain and stiffness about her throat. On examination, I found the sub-maxillary gland on the left side slightly swollen and somewhat painful to the touch.

11th. Had chilly feelings during the night, with fever. The milk appeared during the day. The gland was more swollen. Pulse 90; temperature 99.5°.

The lochia good. Bowels open.

12th. The left parotid gland swollen; mouth moist; appetite good; plenty of milk; lochia good; pulse 90; temperature 100°.

13th. The swelling very great on the left side of face, as in mumps; very painful. The general condition about the same, but very nervous, because she expected that the glands would suppurate. Pulse 90; temperature 100°.

14th. The right parotid gland became swollen during the night. It is difficult for her to open the mouth.

15th. The right side of face and neck very tense and painful. The left side somewhat softer. Pulse 80; temperature 98.4°.

16th. The right side also softer; no pain; mouth moist; temperature normal; pulse 75.

17th. No pain; the swelling gradually disappearing.

19th. Both sides much reduced in size. She continued to improve, and in a few days more I was pleased to see this disagreeable complication entirely disappear, for I was in great fear of the glands breaking down and suppurating, as they appeared several times to contain pus, and she complained of a throbbing pain in them. Quinine was given internally, and warm applications made to the neck. The bowels were kept open. During the attack, the general condition was good, and the lochial discharge was normal in quantity and character. There was no tenderness about the abdomen or uterus. She made a good recovery, and since then has had two miscarriages with great pain and hemorrhage. One was followed by septicemia and a long sickness. It was necessary to use the curette twice, and wash out the uterus, yet she did not have a return of the inflammation of the salivary glands.

The history of this case shows that there was nothing of a

surgical nature about it. It was not true mumps, because she was not exposed to the disease. There were no cases of it in the neighborhood or in the nurse's family, and I had not seen any. There were no visitors in the room before the complication set in. There were two small children, besides the baby, in the room much of the time, and they did not contract the disease, though they had never had it. I did not isolate her, because I did not regard it as true mumps. I may state that the lady had not had the disease, though she was often exposed to it. There were no symptoms of pyemia or puerperal fever observed in the case, though I watched carefully for them. The chilly feelings and fever occurred after the gland had commenced to enlarge, and was, I think, the milk fever.

This case can be classed among those that have been reported as following operations on the uterus and ovaries.

Mundé saw suppurative septic parotitis in a case of "Ovariectomy during subacute peritonitis and suppuration of the cyst," performed Nov. 14th, 1875 (see *Am. Jour. Med. Sciences*, January, 1878) and Bumm, of Wurzburg, has recently discussed the subject and collected all the reported cases.

At the meeting of the American Gynecological Society in 1885, Dr. William Goodell, of Philadelphia, read a paper on "Inflammation of the Parotid Gland following Operations on the female Genital Organs." He said: "That parotid bubo seems particularly liable to follow ovariectomy where septicemia has taken place. He had seen parotid bubo once in one hundred and seventy-three cases of ovariectomies. He thought also that 'there is a transference of irritation to the parotid glands in which there is no evidence of septic poisoning.' Of this the author had seen three cases, twice after ovariectomy and once after oöphorectomy. In these cases the parotid complication did not influence the progress of the case. He regarded the affection of the glands as sympathetic and not symptomatic. He had also seen one case after operation for lacerated cervix.

Dr. Sutton had one case in twelve ovariectomies. It ended fatally. He regarded the cases as septicemic. The symptoms in his case pointed to typhoid fever.

Dr. J. Taber Johnson gave the history of a case somewhat similar to Dr. Sutton's, with like result.

Dr. Mann reported three cases of the complication. One

after ovariectomy. Symptoms of septicemia. The patient died. One after removal of the ovaries and part of the uterus. Recovery. The third case was a boy who had received a penetrating wound of the abdomen. Recovery.

Dr. Emmet had two cases, one after operation for lacerated cervix. Recovery. One after an operation for a small vesicovaginal fistula, the patient dying.

Dr. Baker had seen the complication follow Tait's operation the patient recovering.

Dr. Reamy had met with two cases. One was after Tait's operation. The glands did not suppurate, but the patient died. The second was a case of supra-vaginal hysterectomy, in which the uterus and both ovaries were removed. The left gland became much enlarged, but did not suppurate. The patient recovered.

S. Keith, in the *Edin. Med. Jour.*, 1886, published a case of suppuration of the parotid following ovariectomy.

R. Möricke, who was one of the first to report cases of inflammation of the parotid gland as a complication of ovariectomy, reported five cases.

Paul Berth (Inaugural Dissertation, Greifswald, 1886) also gave a case of suppurative parotitis following amputation of the neck of the uterus for carcinoma.

H. Schröder (Inaugural Dissertation) had a case of inflammation of the salivary glands after ovariectomy. He held that the complication was caused by the salivary secretion being altered through reflex action, from irritation of the abdominal organs by the opening of the peritoneal cavity.

Most writers explain the complication by septicemia, but many also attribute it to sympathy. We know that there is an apparent sympathy between the salivary glands and the genital organs, as is shown in true mumps. No doubt that, where suppuration occurs, there is septicemia present.

I am inclined to regard my case as one of sympathy rather than to ascribe it to septicemia, of which I have no evidence.

A CASE OF VERY LARGE SUPPURATING EXTRA-PERITONEAL  
HEMATOMA CURED BY LAPAROTOMY.

---

BY

WILLIAM WOTKYNs SEYMOUR, A.B. YALE, M.D. HARVARD,

Troy, N. Y.

---

I FIRST saw the patient in consultation with her brother, a physician, April 13th, 1887, and obtained the following history: 37 years of age, American, thirteen years married; no children; living in comfortable circumstances. Four years ago (1883), had a "pelvic cellulitis" involving the left broad ligament from which she entirely recovered after two or three months' treatment and was from that time in perfect health until December 21st, 1886, when she again had severe pain in the left inguinal region and noticed a lump in this side the following day. The diagnosis of her attendant was, I am told, pelvic cellulitis. This subsided promptly on treatment and the patient remained in good health up till March, 1887. On March 17th, her period began a week before the usual time and was normal in character, lasting four days. On the cessation of menstruation, she was taken with atrocious pains in the *right* side and marked evidences of shock and abdominal tenderness, and two days later her attendant and his consultant discovered the tumor to be described subsequently. The temperature reached  $102^{\circ}$  for three or four days and afterwards remained up till my visit  $\frac{1}{2}^{\circ}$ – $1^{\circ}$  above normal. The patient had lost much flesh. Heart, lungs, and urinary organs normal. There was considerable rectal irritation, shown by diarrhea and a constant desire to extrude something. In spite of injections, no fecal matter had come away. Examination of the abdomen showed it to be quite prominent on the right side below the level of the umbilicus. Palpation disclosed a tumor extending from two fingers' breadths below the margin of the right ribs in axillary line obliquely downward and across the abdomen to the middle of the left Poupart ligament. The left portion was very hard, but the right most prominent portion was distinctly fluctuating. The resonance in the right loin behind the tumor was tympanitic. The tumor was not mobile.

Abdominal measurement: Girth at umbilicus,  $32\frac{1}{2}$  inches: ensiform cartilage to umbilicus, 5 inches; umbilicus to symphysis pubis,  $5\frac{1}{2}$  inches; right ant. sup. sp. of ilium to umbilicus, 7 inches; left ant. sup. sp. of ilium to umbilicus,  $6\frac{1}{2}$  inches.

The examining finger, on entering the vagina, encountered a hard, flattened ovoid mass, of the shape and size of a kidney,



over which the recto-vaginal septum moved freely. This mass prevented access to the uterus. Rectal examination showed the mass to be fecal and very hard and smooth. After breaking this up and syringing it out, I was able by vaginal examination to feel the uterine neck high up behind and fixed. Owing to the tense abdominal walls, I could not determine the situation of the fundus. The left broad ligament was contracted and hard in the neighborhood of the uterine neck, and the right seemed prominent and to fluctuate slightly. Rectal examination showed the right broad ligament semi-fluctuating. In view of the sudden appearance of the tumor with severe pain and shock about the time of a menstrual period, and in absence of any urinary symptoms, I expressed the opinion that the case was one of unusually large hematoma which was suppurating and which might be complicated by an inflamed cyst or tube. This I learned was the opinion of the previous consultant, although the attending physician had maintained the case to be one of hydro-nephrosis and had twice attempted to catheterize the ureters.

I advised oxgall internally and in large rectal irrigations to clear out the bowels, and tonics and feeding to prepare the patient for laparotomy.

Under the oxgall irrigations all rectal irritation subsided and the patient began to gain strength and appetite.

Examination on April 28th showed the general strength to be better; tumor the same and temperature  $1\frac{1}{2}^{\circ}$  above normal.

The patient now went to the mountains to be under her brother's care and on May 5th, 1887, with the assistance of Drs. Morris, Daley, and Gordinier, I did laparotomy.

Ether was given. The abdomen was thoroughly cleansed with ether, turpentine, and bichloride, and hands in turpentine and bichloride. Instruments in two-per-cent carbolic solution. An incision was made three inches long somewhat nearer the umbilicus than the pubis. Finding the tumor strongly adherent to the abdominal parietes, I extended it upwards an inch and opened the abdominal cavity. Introducing two fingers into it, I found the adhesion so firm and so extensive that I stitched the sac-wall to the abdominal wall and then opened into the sac by an incision admitting two fingers. This gave exit to a quart of pus filled with blood-clots. The sac extended from two inches to the left of the median line across the abdomen and up to the margin of the right ribs. I introduced a large-sized glass drainage tube and subsequently substituted a large rubber tube. The recovery was non-febrile, the stitches were removed the seventh day, and under the daily irrigation of the sac and the substitution of gradually smaller tubes, the sac was reduced to a short sinus in six weeks. This completely closed a few weeks later, and the patient menstruated normally in two months, and by the end of summer had gained nearly fifty pounds, being now in better health than for years.

INTRALIGAMENTOUS TUBAL PREGNANCY; SUCCESSFUL REMOVAL BY ABDOMINAL SECTION OF A FOUR-POUND LIVING CHILD WITH ALL ITS APPENDAGES; MOTHER AND CHILD STILL LIVING.

---

BY

JOSEPH EASTMAN, M.D.,

Professor of Gynecology in the Central College of Physicians and Surgeons,  
Indianapolis, Ind.

---

Mrs. C., age 39, bore one child nineteen years ago. Suffered from frequent paroxysms of intense pain and rapidly increasing abdominal enlargement, since her flow stopped last Christmas.

She was admitted to my private hospital on July 9th; operation July 10th.

Abdominal inspection and palpation showed tumor extending from near pubes upwards, and to the right reaching near liver. Conjoined manipulation disclosed uterus normal in size, well up between tumor and symphysis pubis. There was not less than three inches of fat between integument and tumor. I failed to detect sound of fetal heart. Breasts not enlarged. Very little discoloration around the nipple.

Abdominal section revealed extra-uterine pregnancy, tubal variety.

The tube seemed to have much of the right broad ligament surrounding its uterine attachment, as if the tube had been originally beneath the peritoneal fold of the broad ligament.

The sac containing the child was a dark purple and tore open easily on the touch of small forceps.

Placenta was nearly under line of abdominal incision, yet I was enabled to open sac and extract child without detaching much of its tissue.

Any manipulation of sac caused hemorrhage. I determined at once to remove tube and placenta in mass, and began by separating an adherent intestine and then an adherent omentum, being compelled to use pressure forceps and ligate five times before I reached and surrounded the tube with my fingers.

By this time there was free hemorrhage from the margins of placenta and tube.

I applied Eastman's clamp below my fingers around the neck of the sac, and found by this means I could so constrict as to arrest all bleeding; then cut off above clamp, and using No. 14 iron-dyed silk, quilted the pedicle (which the clamp had made for me) with cobbler's stitch.

I washed out the peritoneal cavity with pure water (temperature

105°) three times, put in glass drainage tube, and closed wound with silk-worm gut, and found to my great satisfaction that the patient had suffered little shock. Her highest temperature was 102°.

Bowels moved on third day, and drainage tube was removed on fifth day. She is now surely convalescent, with normal pulse and temperature.

The child is well and growing as nicely as any infant I have seen. I am under lasting obligations to Dr. A. W. Pattison and my faithful nurses, the Misses Prough (sisters), for their efficient assistance in the operation; also to Dr. J. F. Barnhill, for his skillful administration of ether. There were no others present at the operation, as "in a multitude of counsel, there is safety to the counsellors, but not to the counselled." Drs. Todd, Waterman, and Elder, of this city, in addition to those present at operation, examined the tube and child; all concurring in the belief that the child was eight months, and that the tube had not ruptured.

The only similar case which I have been able to find is the following, from the *Am. Jour. of Med. Sciences*, Feb., 1888.<sup>1</sup> The two cases referred to by J. Grieg Smith (second edition "Abdominal Surgery") are *not* parallel. In Jessup's case, no tube was removed, and in Martin's case, while the tube was removed, the child was moribund.

"At a recent meeting of the Society of Physicians of Vienna, Breisky reported the case of a woman, aged 30 years, who had given birth to a living child six years previous to her extra-uterine conception. She suffered from peritonitis after confinement, and had never been free from pelvic pains. Extra-uterine conception was followed by chronic peritonitis; fetal movements were perceived at five months, when the pains lessened. Breisky diagnosed intra-ligamentous, tubal pregnancy. On examination by palpation, the uterus could be felt, lying in front of the tumor. By vaginal examination, the true pelvis was found to be empty, the vagina drawn toward the left. The tumor was at the right of the uterus, the fetal parts could be outlined, and the heart-sounds heard.

"The operation was performed at the end of eight months of pregnancy. After a central incision, the fetal sac presented in the wound; it was stitched to the abdominal wall by four sutures; at its thinnest point, an opening was made, and the child was rapidly extracted. It weighed over five pounds, was asphyxiated, but was promptly resuscitated. The four fixation sutures were then removed; the sac was drawn out, ligated at its junction with the uterus, and removed. Externally the adhesions were but partially broken up, as the sac was adherent to the intestines and

<sup>1</sup> The mother and child are, at this date, August 14th, in good health.

omentum. The sac, placenta, and membranes were removed, and the wound drained and sutured. The mother recovered perfectly in three weeks.

"The sac presented a considerable development of muscular tissue, and seemed mostly developed from the serosa; the placenta was large, and showed adherent lobules.

"Three weeks after delivery, the child died from inflammation of the umbilical vein—a termination not to be ascribed to the operation.

"Breisky claims that this is the first case of the successful removal of the living fetus, with all its appendages, in extra-uterine pregnancy. From the consideration of three cases previously operated upon by him, Breisky believes that in advanced cases of extra-uterine pregnancy, when the fetus lives, we should extirpate the entire sac. To await the formation of a lithopedion is not admissible, as perforation of the bladder or intestine, or septic infection may result.—*Wiener medizinische Presse*, No. 48, 1887."

---

## FIVE SUCCESSIVE LAPAROTOMIES.

BY

W. M. HARSHA, M.D.,  
Decatur, Ill.

---

CASE I.—Mrs. W., æt. 50, widow. Unusual abdominal enlargement which had existed ten months, increasing gradually, although she had taken treatment almost constantly from her physician. Circumference just below the umbilicus, four feet and ten inches. Before the enlargement began, she was an average-sized woman. There was little impairment of general health, although her breathing was labored, her sleep broken, and she suffered great distress from the mechanical pressure.

On examination of the abdomen, the fluid wave could be felt distinctly in every direction. The enormous distention precluded satisfactory results from palpation. There was no flattening of the abdomen when patient lay on her back; in fact there was a sharp projection forward, the highest point being a little below the umbilicus. Percussion indicated ascitic fluid, but the history pointed unmistakably to ovarian tumor. A monocyst was diagnosticated with ascites. An operation was done with the assistance of Drs. Chenoweth, Moore, and Small. On opening the peritoneum, we found a large accumulation of ascitic fluid, estimated at ten gallons, which being evacuated brought to view a cysto-sarcoma of the right ovary, somewhat larger than a fetal head. It had no attachments. The small, short pedicle was tied and dropped; tumor removed.

The peritoneum attracted attention, being congested and having a fine granular appearance throughout—both the parietal and intestinal covering. The liver was examined and felt to be normal. The abdomen was cleansed, and closed with silk sutures. Operation was performed with antiseptic precautions, excepting the spray. Recovery was unusually rapid, free from febrile symptoms, and complete.

It is now more than two years since the operation, and excepting a ventral hernia which is managed easily, she is perfectly well and has gained seventy-five pounds in weight.

CASE II.—First saw patient by courtesy of Dr. Hostetter. Mrs. V., aged 33 years, married, mother of two children. Patient thought she was pregnant, but after cessation of menstruation for four months, it reappeared, but was very painful. Miscarriage was suspected, but symptoms passed off only to reappear at each menstrual period. Abdomen grew larger gradually, and at the time I first saw her, about ten months from the supposed start of the growth, the abdomen appeared about the size of pregnancy at seventh month. Enlargement was irregular, and, but for the connection which could be traced, appeared like cysts of both ovaries. Fluctuation was distinct on both sides. Assisted by Drs. Hostetter, Chenoweth, and Moore, we removed it with antiseptic precautions. Amount of liquid evacuated estimated at one and one-half gallons. Attachments were few and small bands. Recovery was rapid and complete in three weeks. There was considerable vomiting for the first three days, and a cystitis was caused by too frequent catheterization by the nurse.

CASE III.—Mrs. B., a widow, æt. 28 years, weight one hundred and sixty pounds, height five feet. Age at marriage, 15 years. Menstruation established the same year. Miscarriage at four months two years afterwards. Lived with her husband nine years, but had no children nor pregnancy.

Dysmenorrhea began at age of 20 years, after which time menstruation increased in quantity, was regular, but gradually became more painful from year to year till the patient was operated upon. During the three years previous to the operation she was confined to bed several days at each period. At the time of examination, she was suffering intensely from dysmenorrhea, and troubled with frequent micturition. The abdomen was as large as in pregnancy at the seventh month. A cystic growth behind and to the left side of the uterus fixed that organ close against the top of the pubic bone. Fluctuation was distinct on bimanual examination. The depth of the uterus was normal.

I was inclined to the opinion expressed by other physicians who had treated her that she had an ovarian cyst; but advised an exploratory incision with a view to make a positive diagnosis and further to operate for cure if possible.

Consent was not then given; but instead of obtaining relief as

usual after the menstrual flow had ceased, the pain continued and was so distressing that the patient, expressing the fear that she would burst, begged to have the operation done at once. Assisted by Drs. Chenoweth and Fisher we made an exploratory incision, and on reaching the peritoneal cavity found a tumor the size of the pregnant uterus at the seventh month. The walls were observed to have a muscular appearance and were more tense and resisting than a cyst of the ovary. It grew from the left posterior and superior portions of the uterus and had no attachments elsewhere. An exploring trocar drew off some dark, coffee-colored, sero-sanguinolent fluid, and produced contraction of the cyst-walls which seemed uniform in thickness throughout.

As the cyst was emptied by a larger trocar, the walls were found to contract gradually until after the withdrawal of about five quarts of fluid, of the dark color above described, when the uterus presented simply an enlarged appearance.

A dilator was used and the uterus explored per vaginam to make sure there was no connection between it and the tumor.

After cleansing the peritoneal cavity, some oozing continued from the trocar wound. A drainage tube was put in and the abdominal opening closed with silk. Usual antiseptic precautions were observed, except the spray.

Next morning the temperature was 102.5°. Opening the drainage tube evacuated an ounce or more of the dark fluid. The tube was removed and the angle of the wound left open, covered by antiseptic absorbents. Recovery was rapid and without febrile symptoms. There was entire absence of nausea and vomiting. The marked difference in that respect between this case and the ovariectomies here reported corresponds with the suggestions of some authors that the constriction of the pedicle has much to do with the causation of this disagreeable symptom. Recent examination discloses no renewal of the accumulation and menstruation is normal.

CASE IV.—Mrs. W., aged 51 years, married, has had several children. Menopause occurred at 48 years. Appearance cachectic. She had complained of failing strength for some months and had been under treatment of her family physician, but had not discovered the tumor. Within two weeks after discovering, the tumor, which was at first hard, the size of an orange, and situated in the right ovarian region, had enlarged to double its former size and bulged in the median line. At the suggestion of exploratory incision, she favored early operation which was done the following week. Meanwhile the growth had reached nearly to the umbilicus. Incision was made long enough to thoroughly explore the parts. The tumor was very vascular, of cancerous appearance and firmly adherent throughout most of its surface. No attempt was made at removal. The wound was closed with silk and healed up in ten days. Patient lived three months, when the continued growth of the tumor and dropsical effusion caused her death.



CASE V.—Miss E., aged 49 years; menstruation had stopped at 47 years of age. Dr. T. J. Mitchell, of Bement, Ill., gives following history: She had been complaining some months with pain in the left hip and iliac region. After some weeks, a tumor appeared in left ovarian region, and there was increased pain and continued failure of strength. By the middle of last January, the growth was probably as large as a fetal head. January 18th, after a day of severe suffering and complaint of "such distressing feelings as she had never experienced before," patient discovered that the bulging of the tumor had disappeared. She continued to have the faintness and extreme weakness, keeping her bed till the 24th of January. On that day, by request and assistance of Drs. Mitchell and N. N. Vance, we removed the tumor. On opening the abdomen, pus escaped, confirming the diagnosis made by the attending physicians of rupture of cyst or tumor, which was partially emptied. The character of the growth was not satisfactorily made out. Tumor was thrown away by nurse. The walls were thick and no stronger than liver tissue. The whole of the cavity had been filled with pus. The pedicle was thick and easily cut by ligatures. The whole of the growth, which was probably cancerous or a degenerated cysto-sarcoma, seemed softened and bloodless. There were no attachments aside from pedicle.

After cleansing peritoneal cavity, the wound was closed with silk.

Owing to emaciated condition, she did not rally from the operation promptly, but her recovery was rapid; after ten days the wound was healed, the appetite and digestion good, and she improved in strength. But she is not well yet, now six months since. There is occasionally pain in region involved.

She has menstruated twice since the operation, and is able to be about the house and yard. Her mother died of cancer. There can, however, scarcely be a doubt but that death would have ensued in a few days without operation.

JULY 10TH, 1883.

---

## THE PHYSICAL EVILS ARISING FROM THE PREVENTION OF CONCEPTION.<sup>1</sup>

---

BY

THOMAS E. McARDLE, A.M., M.D.,  
Washington, D. C.

---

Much has been said and written concerning the very prevalent evil of criminal abortion. Prizes have been offered by

<sup>1</sup> Read before the Washington Obstetrical and Gynecological Society, May 18th, 1888.

various Medical Associations for essays containing some practical means of preventing so hideous a crime. The profession is fully alive to the heinousness of the offense. The public weal demands that it should be stopped, for it saps the very root of the family, the foundation of society. But is there not another evil of common practice, a degree less heinous, it is true, which calls for more than passing notice from all physicians, but especially from gynecologists and obstetricians? I refer to the wide-spread and prevalent effort to prevent conception by methods harmful in their nature and criminal in their intent. It is a sad reflection on our boasted progress that such practices should be most common in those nations which are considered the highest in the scale of civilization. It is the product of luxury, the outgrowth of sensuousness. The boastful citizen of the cultured class cries out against the brutal destruction of infantile life as practised by the outside barbarians, and yet he does not hesitate to wantonly commit the crime for which Onan was so severely punished. It would be interesting to discuss this question from a moral standpoint, but it is better, perhaps, to leave that phase of the subject to the clergy who should have the courage to tell their people from the pulpit that the adoption of criminal means to prevent conception desecrates the sanctity of a man's home and makes him false to himself and the woman he has sworn to cherish. But let us rather consider this disagreeable subject from a scientific point of view, and having proven that the prevention of conception by criminal means is a violation of the physical as well as the moral law, let us endeavor, if possible, to discuss some means of stopping a sin crying to nature for vengeance.

There is, of course, no positive means of obtaining any reliable statistics as to the frequency with which married or unmarried people endeavor to prevent conception. But it seems to me that an altogether too large number of husbands and wives are seeking to prevent additions to their families, by means both criminal and hurtful. The young physician is tempted by bribes and blandishments to produce abortions. To his credit be it said, he rarely falls. As time goes on and he begins to get a family practice, he will frequently be importuned to give some specific by which man and wife may enjoy the lustfulness of the flesh and yet not reap the consequences. Five women of this city pooled their issues and sent five dollars

to an impecunious but ready-witted scoundrel who advertised to give for that sum a certain means of limiting the number of their offspring. He earned his money, but think you they followed his advice, when he told them that abstinence from their marital privileges was the only sure means of preventing conception. That is one of the strongest points we can make when advising our patients against the adoption of criminal methods in order not to have children. Abstinence is the only sure means. They may try every other method that the ingenuity of prudence or bestiality may suggest, and yet find their efforts not only uncrowned by success, but most hurtful to their physical selves.

"There were Malthusians before Malthus," yet it is to be doubted if ever before the enunciation of the views and maxims of that revered student of political economy there were published in so open and shameless a manner, the various means thought to be potent in preventing impregnation. The blame for this may not, perhaps, be justly laid at the door of Malthus, because his panacea for the prevention of over-population was marriage late in life. He would not have marriages take place until the period of greatest fecundity had been safely passed. But close in his footsteps came other pseudo-philosophers, male and female, each with a certain means, learned from man's lowest nature, by which the pleasures of the flesh could be indulged in without fear of consequences. It is a matter of curiosity to read that the male<sup>1</sup> favors withdrawal, whilst the female<sup>2</sup> contends for some occlusion of the uterine orifice which will not prevent full enjoyment of the sexual act. But every physician knows that both these means have been tried and both have failed too frequently to gain the stamp of certainty. And so with many other methods that the fertile French brain has devised.<sup>3</sup> It would be wearying and disgusting for me to give you in detail the various means of preventing conception which the courtesy of Dr. Wise, at the Library of the Surgeon General's Office, has enabled me to study during the past few months. Suffice it to state that the best medical authorities have proven to their own satisfaction, at least, that these various methods of preventing impregnation

<sup>1</sup> Robert Dale Owen. "Moral Physiology," London, 1844.

<sup>2</sup> Annie Besant. "The Law of Population," London.

<sup>3</sup> Bergeret. "The Preventive Obstacle," Trans. N. Y., 1870.

have for their results only moral and physical evils to the sensual individuals who indulge in them. Thomas<sup>1</sup> says, the workings of nature in the matter of conception, as in all other physiological processes, are too perfect, too accurately and delicately adjusted, not to be interfered with materially by the clumsy and inappropriate means adopted to frustrate them. It will not be wondered at that the means adopted for the prevention of conception are often productive of uterine disorder when the harshness of some of them is borne in mind. West<sup>2</sup> considers the imperfect performance of sexual intercourse one of the frequent causes of uterine engorgement, and of hypertrophy of the cervix. Bergeret<sup>3</sup> records nine cases of acute metritis with two deaths. According to Goodell,<sup>4</sup> he has so often seen like results from like causes, that, when called to a case of pelvic inflammation he takes for granted that means have been adopted for preventing conception.

Conjugal Onanism so deteriorated the health of two of my patients, husband and wife, that it was a source of great joy to me when accident led to impregnation, followed in due course of time by a healthy baby, the delight of the household. Though there are now three instead of two in the family, the doctor's bills are lessened in amount, for father, mother and child are well and happy. Such cases are far from rare. But the principal object sought in bringing this subject to the attention of the society is to get an expression of opinion from its individual members, as to the evils likely to result to women from the adoption of preventive measures.

"In man," as Barnes very forcibly shows, "the ejaculation of the semen ends his physiological duties; but a woman to complete the cycle of reproduction, must pass through conception, gestation, and parturition." "Hence," Goodell adds, "a disregard for these requirements of her very nature will assuredly predispose to uterine disorders. Marriage without children acts like a slow poison on the constitution of most women.

It is not to be wondered at that the woman should suffer more than the man, for greater fraud is practised against her. She is teased and not gratified, and not only once but many

<sup>1</sup> Thomas. "Diseases of Women," Philadelphia, 1880.

<sup>2</sup> "Lectures on Diseases of Women," p. 80.

<sup>3</sup> Loc. cit.

<sup>4</sup> "Lessons in Gynecology," Philadelphia, 1887.

times, possibly as often as once a day. The generative organs become engorged with blood, but are not permitted to enjoy the relaxation consequent upon the full completion of the marital act. This engorgement may lead to undue local nutrition, and diffuse growth and proliferation of the connective tissue may take place. Hence, the uterine walls become thickened and dense, and the nerves compressed. Of course pain, tenderness, and a sense of bearing-down will be the result. Flexions and versions may be consequent upon the engorgement. If even the careful examination by a physician of the pelvic organs by abdominal manipulation or by vaginal palpation is capable of setting up a peri-uterine inflammation, how much more so the constant habit of marital masturbation! Some have even gone so far as to say that uterine cancers seem sometimes attributable to the pernicious use of preventive measures. But be that as it may, we all know that no woman can continue to disregard a truly physiological law and retain the blessings of health. The nerves become shattered, and if she should be so fortunate as to contract no serious womb-trouble, yet she will suffer from all the nerve-counterfeits of uterine diseases so admirably described by Goodell. And, perhaps, it may be permissible for me to borrow one of his well-wrought sentences, though to use it, perhaps, in a sense different from that he intended. We must not forget "that the imponderables are great forces in nature; that a single mental stimulus to unstable nerve molecules will awaken many reflexes," and we must not overlook "the tyranny of woman's over-sensitive organization, and underrate the influence of nerve-perturbations or of psychical disturbances." But if no greater evil than sterility itself were to ensue, would not that be curse enough? And it is the common belief of gynecologists that preventive measures long indulged in will result in sterility. It is my belief that people most frequently resort to those methods for the sake of economy, intending to have children when sufficient wealth is accumulated to justify them in raising a family. But, alas, when the money has been gained, the woman's generative apparatus, so constantly abused, has lost its potency. She is no longer able to gratify the maternal yearnings natural to every true woman's heart. Thus are we compelled "to leave her to heaven," like Hamlet's mother, "and to those thorns that in her bosom lodge, to prick and sting her."

But can anything be done by us to save women from the uterine disorders so probably consequent upon the adoption of methods to prevent conception? We all, of course, tell those who consult us that there is no specific for the prevention of conception other than total abstinence. But are we emphatic enough in our assertion that such measures are harmful to soul and body? Do we draw for them a sufficiently vivid picture of the ills likely to result from such pernicious practices? Do men love their wives so little that they are willing to run the risk of entailing upon them a life of mental and physical suffering? It seems to me that it would not be difficult to convince a loving wife to stop such practices if she could only be taught that they were harmful to her husband. It will be a happy day for society when some nimble wit shall discover an effective means of convincing doctors and patients that "there are no harmless methods of thwarting nature's plain intention;"<sup>1</sup> when husband and wife will meet "to endear each other," as Jeremy Taylor quaintly puts it, and not "to adjust accoutrements, to compound antidotes, and to consummate, with pre-arranged precautions and cold-blooded calculations, a union which, for its perfect mental and physical fruition should be spontaneous and unrestrained."

---

A CASE OF REMOVAL OF THE UTERINE APPENDAGES FOR  
THE CURE OF NYMPHOMANIA AND UTERINE MYOMA.  
DEATH ON THE NINTH DAY FROM SEPTIC PERITONITIS  
CAUSED BY THE RUPTURE OF AN ABSCESS.

---

BY

J. TABER JOHNSON, M.D.

Washington, D. C.

---

MISS C. WHITE, single, age 28, was admitted to Providence Hospital on May 3d for the performance of Battey's operation.

She had been about four years confined in a lunatic asylum, on account of nymphomania. The family were unable to control her, and placed her in an asylum, partly to prevent scan-

<sup>1</sup> Goodell, "Lessons in Gynecology."

<sup>2</sup> Read before the Washington Obstetrical and Gynecological Society, May 18th, 1888.



dal, and partly with the hope that the asylum treatment might cure her. While her general health was fair, she had grown worse, if anything, since her incarceration. The argument in her case was the same as that of Battey in justifying his early operations, to wit, if her malady was excited and originated in the menstrual molimen, it was fair to suppose that, if this molimen could be arrested prematurely, her nymphomania would be arrested also, or very greatly lessened in its periodic character and severity.

Members of her family conferred with me months ago upon the subject, and Battey's operation was proposed as a means of relief by them. They had seen a surgeon in Richmond, but could not arrange for an operation, as no place could be agreed upon in which to do it.

Finally, after much correspondence, last month a room was secured in Providence Hospital, and on the 5th May I removed the uterine appendages. She also had an intra-mural fibroid tumor: and what appeared to be a subperitoneal one, also.

As she had suffered from hemorrhages on account of the pressure of these fibroids, I had this further justification for the performance of Battey's operation. I may add, however, that I removed the Fallopian tubes also.

I was glad that these two causes existed in the same patient, as I had many doubts as to the cure of the long-existing mania. I would not have operated for the cure of the mania, had it been continuous, but as it was quite under control for about three weeks in every month, and only became beastly and warranting close confinement—at times a strait-jacket during the week of her period—I thought Battey's operation and the change of life would probably help, if not cure, her, so at least that she could return to her home.

I put in an unusual number of stitches, and bound her up securely with adhesive plasters and flannel bandage, with many safety pins, as we feared trouble, should her mania appear; a strait-jacket was ready to apply, if required. She made very little trouble, except almost constant slight movements of the body, never violent, but enough to cause some strain and inflammation about the sutures, so that, when I came to remove them on the seventh day, there were a number of small stitch-hole abscesses.

She had done very well up to the night of the eighth day, when she had a pain: countenance changed its expression, pulse went up to 160 and 170, temperature  $103^{\circ}$  F.; and she sank speedily and died the night of the ninth day.

I made an autopsy and removed the uterus, containing a fibroid as large as my two fists, and another the size of a lemon, which is subperitoneal. An abscess was discovered in the broad ligament, which had ruptured, and which had exuded about a teacupful of pus. A general septic peritonitis was present.

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

---

*Stated Meeting, Thursday, May 3d, 1888.*

*The President, THOS. M. DRYSDALE, M.D., in the Chair.*

DR. JOSEPH PRICE reported a case of

### TYPHOID FEVER FOLLOWING OVARIOTOMY.

Mrs. E. N., age 37, one child sixteen years ago; one miscarriage fourteen years ago, complaining since miscarriage of great pelvic pain, etc. Was operated on at the Gynecean Hospital, February 11th, 1888, for the removal of the right uterine appendages. The tube and ovary were firmly adherent to and under the fundus uteri. The ovary was enlarged and cystic. The removal was not difficult and the operation was completed in twenty minutes. Two years previously the left appendages were removed for a small inflamed and adherent ovarian cyst, the right side at that time appearing perfectly healthy. The recovery from this first operation was speedy and for a year the patient seemed in perfect health. Then the symptoms of pelvic trouble returned and were referred to the right side. From the second operation, the patient reacted perfectly, and for nine days her temperature constantly remained above normal, varying from  $98.6^{\circ}$  to  $100.1^{\circ}$ , the intermissions never amounting to one degree. During this time she also complained of a good deal of headache, weakness, and mental depression. On the evening of the ninth day, her temperature ran up to  $102^{\circ}$  and she had a slight rigor. From that time she presented a typical case of typhoid fever, including the characteristic temperature record, stools, and eruption. The nervous symptoms were not particularly marked. The temperature varied from  $99.8^{\circ}$  to  $104.8^{\circ}$  for four weeks. The patient made a good recovery and is now in better health than before the operation.

The points of interest in this case are, first: That the patient was probably in the early stage of typhoid fever when she entered the hospital, there having been no cases of typhoid in or near the hospital at the time. Second: The operation did not seem to influence the course of the fever, nor the fever the result of the operation. Third: The temperature combined with the early constipation and meteorism were naturally attributed to the operation and treated accordingly, until the diagnosis of typhoid fever was made, after which the usual expectant treatment for that disease was pursued.

DR. WM. GOODELL exhibited a specimen of

#### HEMATO-SALPINX.

The right tube was enlarged to the size of a fist and filled with broken-down blood-clots. It burst either just before or during the operation, for the woman had not complained of abdominal pain, and when the abdominal incision was completed, a quantity of bloody serum escaped from the wound. At first examination Dr. Goodell thought it was a case of tubal pregnancy. Both ovaries and tubes were adherent and removed with difficulty. The abdominal cavity was flushed with plain warm water and a drainage tube put in. The woman recovered promptly.

Dr. Goodell also showed a specimen of

#### FIBRO-CYSTIC TUMOR OF THE WOMB.

The patient, a single woman, aged 46, had regular but profuse menstruation for several years. Three years ago a tumor was discovered which had gone on increasing. Fluctuation was so marked and the cyst so flaccid that Dr. Goodell thought it was a parovarian cyst. The patient would not permit a vaginal examination; but that could not have thrown any light on the diagnosis. The cyst was multilocular, weighing thirty-three and a half pounds. It sprang up from the right cornu of the womb and had dense parietal and some pelvic adhesions. The pedicle was trans-fixed and tied, its end scooped out, and the peritoneal edges sown together by a continuous gut suture. The ovaries, being healthy, were not removed. Recovery was prompt, although the drainage tube had to be kept in for eleven days.

DR. H. A. KELLY, speaking of the first specimen, said that he would call attention to an error in nomenclature. If we found a laminated clot in the ampulla of the tube, we termed it a hemato-salpinx; again in another case, where there was a large amount of watery but distinctly bloody fluid, which is unquestionably of a different origin—what the origin is it is impossible at present to say—we call that by the same name. In this second class of cases, he had found by one bad experience that the fluid was intensely poisonous and would produce violent septic peritonitis in a short time, if every trace was not removed. The fluid character of the collection causes it to diffuse itself quickly and even the washing seems to cause it to be more thoroughly diffused. He thought it would be well if every case of hemato-salpinx were reported, bearing in mind the different origin and clinical history of the two classes of cases.

DR. HOWARD A. KELLY exhibited a

#### KNIFE-BLADE TENACULUM.

While he had rarely found in his experience that local depletion was alone valuable as an agent for the cure of any forms of uterine disease, he frequently found it a powerful adjuvant, similar in its results to the benefits obtained from the cotton tampon.

Chronic or recurring pelvic congestions, accompanied by great

pain and discomfort, can often be tapped by a free depletion of the cervix, and the patient's condition temporarily much improved. Many of the neurotic symptoms associated with a congested, puffy, blue, plethoric cervix also undergo marked improvement with this plan of treatment, judiciously carried out combined with applications of glycerole packs and tamponing.

He knew of no other method equally serviceable and speedy for the treatment of lacerations of the cervix with eversion and infiltration of the lips. Many cases upon which he had heretofore been in the habit of operating now recover perfectly when thus treated and remain well if the uterus is prevented from sagging, by giving proper support to a torn or relaxed outlet. Except in the latter condition, when associated with lacerations, depletion is not often called for in spare or anemic patients.

To secure any advantage by this method, it must be carried out thoroughly: I am in the habit of drawing from six drachms to an ounce, or an ounce and a half of blood, every five days or once a week, following the depletion immediately by a glycerole or boracic acid pack, which is often retained until the next depletion.



To deplete the congested pelvic organs, he has used the knife on both vaginal and uterine surfaces and the vault of the vagina, the latter being used in a series of experimental studies. He is not sure that it has any special advantage over the simple depletion of the cervix. Serious difficulties have occasionally arisen in other hands from too deep a penetration of the scarifier which may wound an artery of large calibre and give rise to alarming hemorrhage. Difficulties also arise in the use of the spear-pointed instruments, which often occasion great pain to the patient, obliging the operator to desist or to make but few punctures. A serious practical objection against the straight instruments in use is, that the depletion can only be practised with safety and satisfaction upon the prominent rounded extremity of the cervix. To obviate these objections, he had invented the "knife-blade tenaculum" here figured, which had been in extensive use in his office for many months. It is made like an ordinary tenaculum with a blade in place of the hook. This blade is placed at an angle slightly obtuse to the handle and about the same length as the point on the ordinary rectangular uterine tenaculum. In using it, the cervix should be fixed by a tenaculum in the uterine canal, when the small, short blade of the instrument can be plunged rapidly in a number of places into the vaginal surface of the cervix anteriorly and laterally and even within the cervical canal, being sometimes used to open a very small ex-

ternal os. The shortness of the blade and the fact that it is placed at an angle to the shaft, prevents a deep and dangerous penetration, and if the cutting edge is kept sharp, and it is used with rapidity, it occasions, as a rule, but little pain to the patient.

DR. J. C. DA COSTA was glad to hear Dr. Kelly speak so highly of the value of depletion in certain diseases of the uterus. He was in the habit of exemplifying this by the exhibition, each winter, of one or two suitable cases to his class at the Jefferson Hospital. He thought if from one to four ounces or more blood was removed instead of six drachms, that the effect would be better. A woman who, when placed on the table, is suffering with great pain and with an angry-looking cervix, will after such treatment leave the table free from pain and with the uterus paled down. The knife exhibited, he thought, was very pretty, but an ordinary straight bistoury enabled him to puncture the neck all over and inside as well. Even if an artery were cut, it was of small matter. The trouble usually was that the bleeding stopped too soon. If he removed the speculum, the bleeding almost always stopped, but the speculum was always replaced to make sure that this was stopped.

DR. WM. GOODELL remarked that there was one point which Dr. Da Costa had overlooked, and that was that, in most cases, simple exposure of the cervix to the air by the speculum will cause it to become pale, although he granted that the effect was doubled by the loss of blood. He used to bleed very frequently, and occasionally still did so, but not so often as formerly, because he believed the importance of uterine congestion was overrated. With reference to the hemorrhage, while he in a measure agreed with the last speaker that it was not usually to be feared, yet he had a patient who bled so furiously after she reached home that she had to send for a physician to check it. On one occasion, while plunging a Buttle's spear, he struck a vessel of such size as to throw a stream of blood directly out of the speculum. But ordinarily the difficulty was to secure enough blood. When the punctures bleed too much, he touched each one with a pointed stick of lunar caustic, which never failed to stop the hemorrhage.

DR. PARISH could indorse all that Dr. Kelly had said. For a number of years he had practised this method of depletion of the uterus, whether there was laceration or not, when the organ was in a condition of congestion. He also emphasized what had been said with reference to the relief and cure of symptoms in cases of laceration of the cervix. He had seen, as a result in many of these cases, a perfect union of the denuded surfaces, but a continuation of the pain and distress, and frequently an increase of dysmenorrhea. In cases where the laceration was not deep, he substituted the method of local depletion, conjoined with other treatment, for the operation. He added that depletion of the cervix, and particularly of the canal, was one of the best methods of treating many cases of endometritis. He had seen sterility of eight or ten years' standing practically cured by this method of depletion.

DR. KELLY thought that an ounce and a half of blood, removed every few days, was quite sufficient. In performing the depletion, the patient lies on the back with either Goodell's or Nelson's speculum in place, which conducts the blood into a wide-mouthed bottle



with graduated capacity. He was glad that the members had expressed themselves so freely and favorably on this matter, as these are the practical conclusions at which he had arrived.

DR. KELLY also exhibited

#### A SELF-RETAINING SPECULUM.

I present this instrument as containing the germs of what I think will be a successful self-retaining speculum for the knee-breast position. A number of specula for this purpose have been invented. Some have taken a purchase on the buttock, others from a belt around the waist, and others still higher up. It seems to me that such a speculum should take a purchase from the pubic rami, for there we get a firm resistance. Here we have such an instrument for the knee-breast position, not for the Sims' position. It consists simply of a dilator of the vaginal outlet. It obviates the necessity for a nurse, which is often a serious objection.

#### HYSTERECTOMY, OVIARTOTOMY, AND ABDOMINAL SECTION ON ONE SUBJECT.

DR. J. M. BALDY reported a case of hysterectomy, followed in four months by ovariectomy, and again in six weeks by abdominal section for purulent peritonitis.

Mrs. P., æt. 43 years, colored, came under my care on the 7th day of last November. She had for years been suffering more or less discomfort from an enlarged abdomen. However, until within the year past, she had managed to get along very comfortably. About twelve months previous to the date of my first visit, while lifting a wash-tub, something "slipped back into her belly," and at the same time the abdomen became somewhat smaller. This was in all probability caused by the large fibroid uterus, which had been resting on the pubis, being suddenly dislodged. She now began to suffer acutely from pressure symptoms. The bladder and rectum prolapsed, and were for the most of the time between her thighs. She had difficult and scanty micturition; constipation was constant. Finally the urine became loaded with pus; her abdomen became enormously distended with ascites, and she suffered constant pain, besides losing large quantities of blood. At the time of my taking charge of the case, she could be out of bed only about two hours a day on account of the great swelling of her legs and feet. She had been attended by a number of physicians, and had been repeatedly tapped, the last tapping having been done on the Saturday previous to my seeing her. After each of these operations she was confined to bed for several days with an acute pain in the lower part of the abdomen, and she was now suffering from one of these attacks of peritonitis, so much so that I could only with difficulty manipulate her abdomen.

The diagnosis was extremely simple, and she readily consented to an operation, with the full understanding that the chances of



recovery were strongly against her. On the following Saturday, just one week from her last tapping, I opened her abdomen and removed a fibroid uterus, weighing five or six pounds. At the time of the operation, her belly was so distended with fluid that her breathing was badly interfered with; over three gallons of fluid were removed. The operation was performed by the extra-peritoneal method. I was able to place the "*serre-nœud*" below, and including, as I then thought, both ovaries, and thus obviated the separate removal of these organs; this, however, finally proved to be a fatal mistake. In cutting away the tumor, it became necessary to leave part of the right ovary on the stump, in order that the button might be large enough to prevent the "*serre-nœud*" from slipping. The peritoneum was the thickest I have ever seen, being fully half as thick as one's finger. The patient recovered promptly from the anesthetic, and much to my surprise went on slowly and without complication to recovery. For the first ten days I removed daily from the drainage tube over a quart of straw-colored, syrupy fluid, and I was at one time afraid that the peritoneum would never stop secreting it. On the eighth day the stitches, fourteen in number, were removed, and union found to be perfect, with no stitch-hole abscess. On the eleventh day the discharge from the drainage tube stopped abruptly after a dose of salines, and never again reappeared. The tube was removed four days later. On the tenth day, while tightening up the "*serre-nœud*," it broke, and I was never able to tighten it afterwards. In consequence of this accident, the stump was slow in coming away, and finally, after waiting a full month, and slight septic symptoms having set in, I removed the pins and cut away the decaying tissue as far as I could, and allowed the rest to retract. Within a few more days I had succeeded in getting away, in small pieces, the little tissue which was left.

At the end of six weeks she was out of bed and again at her work, in better health than she had enjoyed for years. The urine gradually cleared up and became normal. She had no more trouble from her prolapsed bladder and rectum; they disappeared entirely within the body. The depression left by the retracted stump never entirely closed, but continued to discharge from a pin-hole point about one drop of pus daily.

Within a few weeks a ventral hernia began to show itself at the site of the drainage tube, and gradually extended downwards towards the pedicle, until finally it became as large as a big orange. This became more and more troublesome, and she complained of a dull pain at the lower part of the hernia. She being a poor woman, forced to work, and not capable of, or having time, to take the best care of herself, I advised her to go to bed again, and have the hernia closed.

This she did on the 17th of last month. I opened the peritoneal cavity at the upper border of the hernia, and slit up the tissues to

the full extent of the rupture. Quite a large amount, probably a pint, of clear, straw-colored fluid gushed out. Passing my finger into the pelvis to investigate the cause of this, I was surprised to find it filled up with a cyst, having for its attachment the old uterine pedicle, which was itself thin and elongated. The pedicle of this new growth was very short and broad. After securing it with a double ligature, it was removed, and found to be a multilocular ovarian cyst, about the size of a base-ball. The omentum had been slightly wounded on entering the cavity, and as it bled freely, a ligature was thrown around it and a small piece removed. Everything being now cleaned up, a large flat sponge was placed over the intestines, and I proceeded to close the incision. The muscles and fascias were dissected out on both sides, and united by a continuous silk suture. The wound was then closed by seven sutures, introduced through the entire thickness of the abdominal wall. There was no drainage used, which was extremely unfortunate, for a drainage tube would have saved her life. Recovery from the anesthetic was prompt, and she seemed unusually comfortable. On the second day she complained of pain in the left chest, which for the next few days increased. This pain was apparently pleuritic, although I could discover no physical signs. She had a slight hacking cough, and about the fourth day began to spit up quite a good deal of dark-colored sputa. For the first week she was extremely restless, and said she did not feel nearly as good as after the first operation. The temperature remained slightly over 100°, and the pulse about 90. On the seventh day the stitches were removed, and a drop of pus followed each of two of them; there was never any discharge from these points afterwards. This pus apparently explained her discomfort, lack of appetite, etc., but instead of improving she grew slightly worse. From this time until the second of this month her temperature and pulse varied. On two occasions I found the temperature as high as 102.5°, but was never able afterwards to find it more than 101.5°. She complained, however, that her hottest time was towards morning, and that she sweated freely and could not sleep. Her tongue was of a nasty red color, irregularly covered with a thick white coat, and pitted. By repeated examinations I could detect nothing wrong, and yet her whole condition seemed to me to be extremely suggestive of sepsis. On the seventh of the month I asked a friend to see the case with me, and advise as to the desirability of reopening her abdomen. Our decision was to wait and observe, and the old adage that "he who hesitates is lost" was once more exemplified. From now on I was led hither and thither by the symptoms. Sometimes she was apparently much better; pulse and temperature would improve, and at one time the tongue was almost cleared, and the mouth was not so sore. About this time I noticed a distention of the abdomen, more on the left side, with a region of dulness irregularly extending

from the spleen to the pubis. By change of position there was no change in the line of dulness. This led me to think that there had been an acute attack of peritonitis, with effusion, and that soon all would be well.

On the 8th of April about an ounce of pus was discharged from the site of the old pedicle and after putting in a small rubber drainage tube the cavity was kept well washed out. With this cue to the probable trouble, I again lost my opportunity of operating. The symptoms all improved so much and she progressed so well for a few days that I was further seduced into the miserable policy of waiting. The pulse became 100° and the temp. 100.5°, and then things came to a standstill. I now went out of town for three days determined to operate on my return if there was no more improvement. On my return I found that there had been another discharge of pus and that she was very much better; this led me into still more waiting, but without any further improvement.

Looking back over the past month I could see a decided and alarming loss, which had been pretty constant in spite of the repeated changes for the better which had taken place in that time. On the 18th of April, about one month from the second operation, I undertook a third and last. The incision was made through the old wound. Here the tissues were an inch thick, hard and gristly. The hernia had been most effectually closed and the ends of the old suture could be plainly seen. Hemorrhage could only be controlled by sponge pressure. On opening the peritoneal cavity, the trouble was at once apparent. A quart of foul fetid pus was removed. The abscess-cavity extended from the pelvis to the spleen. The intestines were crowded back and to the right, and universally adherent, shutting off the abscess from the rest of the peritoneal cavity. Everything was covered with an apparent pyogenic membrane. The cavities were all thoroughly washed out and four rubber drainage tubes put in, one extending to the spleen and one into the pelvis, the other two off sideways into deep pockets. The incision was then closed with four sutures. Recovery from the anesthetic was prompt. Pulse was 130, temp. 103°. But the pulse was 100 and the temp. 100° the next morning, and she was very comfortable. The tubes were washed out twice daily. For the first time for weeks she was able to retain much food. She was given every twenty-four hours twenty grains of quinine, fl.  $\frac{5}{8}$  viij. of whiskey, one pint of beef tea, and a pint and a half of milk, together with a couple of eggs; she retained most of this, taking part of it by the bowel and part by the mouth. In spite of all that could be done, the pulse and temperature slowly but surely increased until the thermometer registered 103° and the pulse counted 120. She sank slowly and died the evening of the 24th, six days after the last operation.

No post-mortem was allowed, but on pretense of removing the drainage tubes, the incision was enlarged and my hand introduced

into the peritoneal cavity. Breaking up the adhesions surrounding the abscess-cavity, I found there had been a slight general adhesion of all the intestines over the whole abdomen to everything. The liver and spleen substance was surprisingly firm. No more abscess-cavities were found. The general appearance of the abscess walls was that of returning health; the pyogenic membrane had disappeared and the peritoneum was beginning to look somewhat like itself. There was fairly good union in the incision, but it broke down readily under pressure.

In looking back over the management of this case, I recognize a number of fatal mistakes and have learned some valuable lessons which I hope I may never have to relearn at the same cost. In the first place, all ovarian tissue should have been removed at the hysterectomy. However much I regret not having done this, there was at the time sufficient reason to justify leaving what little was left, especially as I thought the "*serre-nœud*" was below it and that it would all come away with the stump. I do not yet exactly see why it did not do so. The great error was in not being more careful in disinfecting the site of the old pedicle, which had never ceased to weep, before opening the peritoneal cavity a second time. The peritoneum undoubtedly became infected from this point during the necessary manipulations incident to the operation, and went on to a purulent peritonitis. Nature made a grand effort, even then, to save the patient, by throwing out adhesions as the inflammatory process advanced and finally succeeded in saving half the cavity from involvement. After doing this, she gave all the indication in her power as to what was the trouble and by thrice discharging pus, apparently called loudly for assistance, which she failed to receive until it was too late.

DR. H. A. KELLY said that he was sorry to say that he had required many lessons to teach him what Dr. Baldy hoped to have learned from this one experience. If anything went wrong which he could not attribute directly to the formation of stitch-hole abscesses, and these did not cause any profound disturbance beyond a sudden rise of temperature, he did not hesitate to enter the peritoneum, with great care. On several occasions he had opened the peritoneal cavity five, six, and seven days after operation, and in a case of day before yesterday, two weeks after the original operation. He usually does this without an anesthetic or at most a few whiffs of chloroform or cocaine locally. Cases requiring this have generally had a drainage tube used and can be readily reopened in the track of the tube. The case of day before yesterday was a pyo-salpinx which had done well for ten days, and then the temperature and pulse began to rise. After giving a whiff of chloroform, he introduced his little finger into the opening and penetrated to the floor of the pelvis when a collection of blood intermingled with pus made its escape. This did not seem sufficient to account for the symptoms and by further bimanual examination, he detected fluctuation on the right side and with his finger broke through a thin wall and let out a teacupful of very fetid pus. This was then washed out with his two-way catheter

and a rubber drainage tube inserted. Since then, he has had his finger through that opening a number of times, for it has a great tendency to close. The case of Dr. Baldy's was instructive from the fact that it showed that there are a certain number of cases in which there is *dry peritonitis* and the patients will sometimes die in spite of all treatment.

DR. WILLIAM GOODELL said that he congratulated Dr. Baldy on the courage he had shown in the treatment of his case, and he thought he had nothing to regret. He always felt a good deal of reluctance in reopening the peritoneal cavity, but he had to resort to it occasionally. He did not think that the best method of curing the hernia had been employed. In his opinion the most satisfactory plan is, after dissecting out the sac and thinned out tissues, to close the opening with three series of sutures. The first unites the peritoneum alone with a continuous gut suture. The second, also of gut, sews together the divided edges of the tendon. The third, of silk and interrupted, penetrates deeply throughout the tissues but that of the peritoneum, and brings the edges of the skin and muscles together. The reason that we get hernia is that we fail to unite the tendon. To avoid the occurrence of hernia, he had often thought it would be a better plan to cut through one of the recti muscles, instead of the linea alba, for then we have a broad raw surface. He occasionally resorted to this plan in oöphorectomy, but it has the objection of being accompanied with more hemorrhage. In large ovarian tumors, the recti muscles were so widely separated that he was *per force* compelled to cut through their tendon, at the same time he admitted that he did not ordinarily unite these edges by a separate suture as is the custom of some excellent operators in this country. His reason is that this takes a good deal of time and it is always desirable to close the wound as soon as possible. But occasionally in cases of large ovarian tumors, he cuts away a long strip of the thinned tendon on either side of the wound so as to bring the muscles close together. In a certain number of cases, however, hernia will occur, and this was one grave objection to the use of the drainage tube.

DR. PARISH asked if Dr. Baldy thought that the hernia was caused by the extra-peritoneal method of treating the stump.

DR. BALDY said that the hernia was not due to the method of treating the stump. It began several inches above the stump and gradually extended towards it. He had, however, seen cases where it occurred at the site of the stump, and he thought that this could not always be avoided on account of the large size of the pedicle and the subsequent contraction. He was glad to be able to criticise such a case in his own practice, as he could do so with more freedom than if it had happened to another. He thought it was his own fault that he had lost the patient. There were certainly enough symptoms to indicate the necessity for reopening the abdomen even a third or fourth time. The symptoms continuing after the first discharge of pus should have settled the question of reopening without any more delay. After the second discharge of pus, he could not see why he had been so blind as to his duty. The patient would undoubtedly have recovered had the belly been opened early enough. Even as it was, after the long delay, she struggled along for about a week, but she was so thoroughly saturated with septic poison that she had not sufficient vitality left for the fight. He would not approve such a policy of



waiting in another and could only excuse himself on the ground of lack of experience in such cases.

DR. J. B. DEAVER reported a case of

EXTRA-UTERINE PREGNANCY.

On the evening of February 26th, 1888, I was called to see Mrs. S. I found her in bed, complaining of bearing-down pains in the lower part of the abdomen, which was very severe, with a pulse of 80, the temperature 99°, and the skin moist. I had attended her three years previously in child-birth, and had delivered her with forceps. Three years prior to this, I had operated on her for bilateral laceration of the cervix, from which she had made a rapid recovery. From the character of the pain of which she complained at my present visit, I thought she was threatened with a miscarriage. She had gone two weeks over her time for menstruation, and the pain had come on suddenly that afternoon. She admitted that she had been using abortifacients, but said there had been no vaginal discharge following the pains. Vaginal examination was negative. I prescribed for her suppositories of opium, gr. i. each, to be used every three, four, or five hours, depending upon the amount of relief experienced. I saw her the next day at 10.30 A.M., and found her suffering quite as much pain as the day before, when I administered half a grain of morphine hypodermically, and increased the suppositories to two grains each, one to be given every four or six hours, as required. The pulse was now 96 and the temperature 99°. On making an examination of the abdomen, I found it slightly prominent. Tongue moist and general condition not at all indicative of any serious trouble. As yet there had been no vaginal discharge. Vaginal examination again revealed nothing new. From now I did not see the patient until Tuesday evening, when I was summoned to come forthwith. Upon my arrival, I found the patient much depressed, abdomen more distended, pulse 96, temperature 99°, tongue moist, some nausea. The pain was now referred more particularly to the umbilicus, and described as being more continuous than at the last visit. I now determined to make a more thorough examination. Deep vaginal pressure revealed a mass apparently the size of an English walnut, situated to the left and posteriorly. This, to my mind, was one of two things: either an extra-uterine cyst or a knuckle of intestine which was the seat of obstruction. At this visit the patient was sick at the stomach and considerably depressed. Again I made a thorough examination of the abdomen, which revealed nothing more than the general distention. Up to this time the patient had had no action of the bowels; this, associated with her general condition and the symptoms referable to the abdomen, and believing her trouble to be either a rupture of the extra-uterine cyst or an acute intestinal obstruction, I determined to ask for a consultation with the view



of performing abdominal section. I asked Dr. Jos. Price to see her with me, and we both agreed that the operation was urgently demanded. The next morning the abdomen was considerably distended and sensitive to the touch, and still no physical signs of a tumor. The vomit was becoming stercoraceous, and the patient was showing more evidence of depression, yet her temperature was 99°, and her pulse 96, considerable in volume, but having a wire pulse, indicating a peritonitis.

At 12 M., assisted by Drs. J. Price, J. Wm. White, M. Price, and H. C. Deaver, the patient was placed on the table, and the abdomen was opened in the median line between the umbilicus and os pubis. As soon as the peritoneum was reached, it was very evident that the patient was a subject of internal hemorrhage. Opening the peritoneum as rapidly as possible, I introduced my index finger into the lower part of the abdominal cavity, breaking my way through a mass of clotted blood, and brought the right tube and ovary into the incision. Finding these to be normal, I turned my attention to the left side, when I found at the junction of the tube and uterus a ruptured extra-uterine cyst with the placenta in situ. In attempting to ligate this off, the placenta was dislodged, occasioning for a few moments a frightful hemorrhage. I quickly transfixed the broad ligament below the cyst, and in ligating found it necessary to include the superior cornu of the uterus before the bleeding could be controlled. The pregnancy was tubo-interstitial. Having secured my ligatures, the cyst was cut away. The fetus could not be found. An ordinarily sized basinful of clotted blood was removed from the peritoneal cavity. After the removal of this, the sigmoid flexure, distended to the size of an ordinary wrist, presented itself at the bottom of the wound. It was considered judicious to examine this portion of the intestinal tract owing to its great distention, when it was found that at the junction of the terminal portion of the descending colon with the sigmoid flexure there was a marked kink of the bowel, due to an inflammatory band. This was relieved, which resulted in the intestine contracting and expelling a large amount of flatus per anum. I now learned that the patient had been given by her husband, two or three days previously, an enema of soap suds, and that the night before, when the husband was administering the enema again, he lost the rectal nozzle, and had not since been able to find it. Having completed the operation, with the exception of making the final toilet of the peritoneum, it occurred to me it might be well to examine the lower part of the sigmoid flexure as well as the upper part of the rectum, when I discovered a foreign body, evidently the rectal tube, in the sigmoid flexure. This was pushed along the bowel into the rectum, from which it was removed after some little difficulty with a pair of sponge forceps. The abdominal cavity was irrigated with hot distilled water, and a glass drainage tube was introduced into the left pelvis. The

wound was closed with six interrupted silk sutures. It was dressed with a dry aseptic dressing. The patient showed very little depression from the operation, and progressed very well for three days, when the drainage tube was removed. For two more days she did well; then the abdomen became very much distended, and the vomiting recurring, the temperature went up to 101°. I naturally thought that in all probability a small collection of purulent matter in the pelvis might be the cause of these symptoms, and therefore I opened up the lower part of the wound and explored the pelvis, but could find nothing more than what proved to be healthy deposit. To be on the safe side, I introduced a small drainage tube, but with little or no effect. The patient died at the end of twenty-four hours. Unfortunately I was unable to secure an autopsy, but I think the immediate cause of death was most probably obstruction of the bowels.

The case is interesting, in the first place, from the character of the pregnancy, tubo-interstitial. Secondly. The early rupture, but six weeks pregnant. Thirdly. No evidence of collapse, which we would naturally look for in a case of internal hemorrhage. Fourthly. The cause of the rupture, which I think was provoked by the abortifacients, and, again, that the case presented symptoms or signs of acute intestinal obstruction.

DR. BALDY thought that the diagnosis in cases of extra-uterine pregnancy is a matter of extreme difficulty, and, as a rule, that it was impossible to make a positive diagnosis. Some time ago he had seen a case at the Philadelphia Dispensary which had just been examined by Dr. Price. He was asked to examine the case and make a diagnosis. The symptoms presented, he thought, every point to which attention has been called as bearing upon the diagnosis of extra-uterine pregnancy. The menses had stopped for one or two periods, and the woman presented all the signs we should expect to find at about the second month of pregnancy, including morning sickness and milk in the breasts. There was bladder and rectal irritation. Examination by the vagina disclosed a small mass to the left of the uterus. She was having characteristic colicky pains, and had been passing from the vagina decidual debris, or, at least, what we mistook for such from her description. We both made a diagnosis in accordance with these facts, and several other gentlemen present concurred in this opinion. At the operation the case was found to be one of small ovarian cyst. He thought that we heard a great deal of cases in which the diagnosis had been made and verified, but not enough of such cases as this one, which go to show how easily one can be mistaken.

If the diagnosis is made, the question of treatment arises, and one of the burning questions of the day is whether extra-uterine pregnancy should be treated by electricity or by abdominal section, where the diagnosis is supposed to have been made before rupture had taken place. The majority of American surgeons, he was sorry to say, at present favored the treatment by electricity. Of course, after rupture had taken place, there was but one treatment, that of abdominal section. The treatment by electricity presents some advantages. It will undoubtedly kill the

fetus, and it does away with the objection of the so-called mutilation of the woman, as it also does away with the worry and excitement of an operation. There are, however, disadvantages which cannot be overlooked. There are cases on record in which the fetus has ulcerated its way out. Dr. Mann states that there are only two such cases on record, and that, as the number are so few, we need attach no great importance to them; but if these two cases are compared with the total number of cases of extra-uterine pregnancy treated in this way and reported within the last few years, the proportion is decidedly large. There have been four cases reported of rupture of a vessel without rupture of the cyst. In one case, that of Dr. Janvrin's, the vessel ruptured some days after the fetus had been killed by electricity, and the patient lost her life. Here, again, is a very positive danger, and one which we cannot ignore, as Dr. Mann seems to think. As far as I know, there has never been a death which could be attributed to the knife. A number have died after the operation, but they have died in consequence of the rupture, and not from the operation.

The fact that the fetus has been killed does not make the tube pervious, but leaves the woman sterile from that side as effectually as if it had been removed by the knife and ligature. Dr. Lusk has reported two cases, in one of which, after six years, there was a mass still remaining as large as a pigeon's egg, and in the other, after four years, the tumor is as large as a hazelnut. This is the usual history of these cases. I am in favor of removing any pathological growth whatever from any portion of the body at any time, if it can be done without risk to life. These masses which are allowed to remain are as likely to set up subsequent trouble as some of the tubal and ovarian troubles for which we operate every day. It seems to me that the gentlemen who accept the knife for the least dangerous, and refuse it for the more dangerous trouble, are extremely inconsistent, to say the least. By operation, the cyst is removed, the fear of subsequent danger is done away with, and the risk of the continued growth of the placenta, however small that risk may be, is also avoided. By fooling with electricity, we put ourselves very much in the position of the child playing with fire, and our fingers are in just as much danger of being burnt.

DR. H. A. KELLY said that it made a great difference whether we saw the case in its incipency, say at the end of the sixth to the eighth week, when we must be more or less puzzled, or in the third or fourth month, when there is a large tumor, or again in advanced stage, where the dangers and difficulties are of a different character. Each of these classes demands separate consideration and separate treatment. Dr. Baldy had referred to a case in which he said that all the signs of extra-uterine pregnancy were present. He would criticise the statement in two particulars. In the first place, the decidua should be seen by the physician. This is a characteristic symptom. If we depend upon the statements of patients, we are apt to be deceived. In the second place, there is another characteristic sign and that is the diminution of the size of the tumor while under observation, due to the absorption of amniotic fluid. This was observed in his own case.

Very serious trouble has followed faradaic feticide in a large number of cases. Both of Dr. Allen's historical cases had serious inflammatory trouble for a long time after being invalided. In the discussion following my paper on the removal of an unruptured

extra-uterine pregnant cyst. Dr. Harris brought to light the subsequent history of many cases in which great trouble had followed faradaic feticide.

DR. O'HARA thought that the occurrence of symptoms indicating the presence of internal hemorrhage would throw light upon the diagnosis. He had a case in which the patient had internal hemorrhage, and the only thing to explain it was that the woman had passed her time for menstruation.

DR. GOODELL asked how Dr. Deaver explained the presence of the nozzle of the syringe so high up in the bowel.

DR. DEAVER said that in his case there had been no indications of internal hemorrhage. The only thing which had attracted the patient's attention was the occurrence of pain, which had appeared four hours before his first visit. The only way in which he could account for the nozzle of the syringe being so high is that, after it became detached, it was forced upwards by the stream of water. There could have been no suction, on account of the obstruction of the bowels.

---

## TRANSACTIONS OF THE OBSTETRICAL AND GYNECOLOGICAL SOCIETY OF WASHINGTON.

---

*Stated Meeting, April 6th, 1888.*

*The President, DR. S. C. BUSEY, in the Chair.*

DR. JOHN T. WINTER presented

A CASE WITH THE URETERS TERMINATING ON THE EXTERNAL SURFACE OF THE LABIA MAJORA.

DR. GEORGE N. ACKER read the paper of the evening:

INFLAMMATION OF THE SALIVARY GLANDS FOLLOWING LABOR.<sup>1</sup>

DR. MACARDLE, in opening the discussion, said: He could not tell, from the subject announced, what the essayist intended to say, so he had looked over the literature of parotitis following labor, but found that the authors did not know any more than he. He had consulted the works of Dewees, Blundell, Burns, Bedford, Meigs, Simpson, Playfair, Barnes, Leishman, Lusk, Galabin, Parvin, Velpeau, Collin, Ramsbotham, Byford, Churchill, Partridge, Meadows, Goodell, and others. He had expected to get something from the paper of Goodell, but even he did not pretend to explain the relationship between the salivary glands and the generative organs. The laity had long recognized a relationship. It was known to the ancients that the thyroid was enlarged during pregnancy, so they measured it before and after marriage. Dryness of the mouth occurs during sexual excitement. Insalivation sometimes occurs during pregnancy. He thought the case of

<sup>1</sup> See Original Articles in this number.

Dr. Acker was septic and not sympathetic. Sympathetic does not mean anything. He was sorry not to have found more literature on this subject.

DR. FRY.—The condition mentioned was more likely due to septicemia or pyemia. In parotitis following labor, five deaths have been recorded by Dr. Acker. This symptom is one of the manifestations of septicemia. Dr. Acker said there were no symptoms of septic poisoning, and that the fever was due to the appearance of the milk. Dr. Fry did not think a fever at the appearance of the milk was physiological, but indicative of mild septic or pyemic poisoning.

DR. W. W. JOHNSTON.—The close relation of the salivary glands and generative organs is well shown in mumps. There must be something more than a reflex irritation. There is a direct relation between the salivary glands and the intestinal tract. In insalivation we have increased glandular secretions from the liver, pancreas, and intestinal glands. Peristalsis is increased by insalivation. He thought the case was septic and not reflex. The fever was a mild form of septic fever.

DR. KING, speaking of our present inability to explain the sympathy existing between the genital system and the parotid glands, said it might be profitable to study this sympathetic relation in the lower animals. While he was not aware that any animals exhibited this relation more decidedly than it appeared in the human species, still, if there were any such circumstance, it may advance our knowledge to discover them; and so, by studying the physiological relation of the parotid and genital glands in these individuals, some light might be thrown upon the mysterious phenomenon of metastasis, as it is exhibited under pathological conditions in man and woman.

DR. ACKER regarded the complication due to sympathy or reflex action, because he had not been able to detect trace of septicemia previous to the commencement of the trouble. He agreed with Dr. Fry that milk fever is, to a certain extent, a septic fever, and that, with care and good diet, it can be avoided.

He would have been more disposed to have attributed this case to septicemia if it had gone on to suppuration. The fever and chilly feelings did not occur until twenty-four hours after the glandular swelling made its appearance.

---

*Stated Meeting, April 20th, 1888.*

*The President, DR. S. C. BUSEY, in the Chair.*

DR. D. W. PRENTISS read

A REPORT OF FIVE HUNDRED CONSECUTIVE CASES OF LABOR IN PRIVATE PRACTICE, IN THE DISTRICT OF COLUMBIA, BETWEEN THE YEARS 1864 AND 1888.

I have thought it might be of interest to bring to your notice a report of the obstetrical cases that have occurred in my practice during the past twenty-three years, that is, since I first entered upon the practice of medicine.

The number of cases up to the 1st of October, 1887, has been five hundred.



During the earlier years of practice, the record has not been as complete in details as might have been wished, but still facts enough may be gleaned from the total to add some little to the statistics of private practice in obstetrics.

As a fitting introduction to these dry statistics, it will be of interest and possibly instructive to very young members of the profession to mention some of the facts of my first labor case.

It was shortly after I had placed upon the outside door-post the momentous announcement of my readiness to sacrifice my time and talents for the relief of suffering humanity. I received a call one day from a dusky denizen of the classic precinct in the rear of my dwelling, so graphically described by my colleague on the right, at a recent meeting of this Society, as the favorite haunt of diphtheria, otherwise known as Blagden's Alley.

The dark-skinned messenger urged my immediate attendance, as his daughter was very bad with 'de misery in de stomach.' I saw the daughter at once and found a severe case of cramp colic, for which, after due inquiry, I prescribed Squibb's mixt. and took my departure. In about an hour came another urgent message that the patient was 'tuk wusser.'

On seeing her again, I noticed that the abdomen was very much enlarged, and a cramp coming on while my hand was on the abdomen, I found it became very hard.

Suspicion was excited which further examination confirmed, though the young woman had never received the connubial blessing of the priest. After much hesitation and modest reluctance, I ventured to make my first vaginal examination, and to my horror found the whole passage occluded by a hard, round tumor.

What was to be done? Manifestly the child could never find egress with this immense tumor in the way. I sat fingering it all around and cudgelling my brains to remember what Prof. Penrose had told us should be done in cases of tumors in the vagina blocking labor, when a pain came on and the tumor pushed my finger out of the way, and another colored soul was added to the census of the D. C. The problem was satisfactorily solved. Nothing daunted, I removed the placenta and finding a slight rupture of the perineum, calmly sewed it up. Mother and child made a good recovery.

I have not recounted this case at some length without an object. My object is to call attention to the fact that, a generation ago, the majority of medical students were graduated with only a theoretical knowledge of widwifery, without ever seeing a case of obstetrics. And I fear the same cause of complaint is true to much too great a degree at the present day.

When I graduated from the University of Pennsylvania in 1864, I had never seen a case of labor, nor ever made a vaginal examination, so that when I felt this infant's head at the inferior strait, I thought it was some kind of horrible tumor.



Of course, such a state of things should not exist. Clinical instruction in obstetrics is quite as important to the student as in surgery or practice of medicine, and if my lamentable example will be of any influence in stimulating clinical instruction to future graduates, I shall not regret having exposed my own youthful ignorance.

Apropos of this same subject is an anecdote told by the Philadelphia professor of obstetrics of a young physician who came to him from a Southern State for post-graduate instruction. The young man had graduated with honor the year before, and settled for practice in his native place.

He was engaged to attend in confinement the young wife of a planter, a very important case for him. The time arrived, pains began, and the doctor was sent for. When ushered into the presence of the patient, he put on his wisest look, and propounded the usual queries; then conversed of the weather, the cotton crop, etc., until finally the nurse suggested that he make an examination. The fatal hour had come. "Oh yes, certainly," he said, but his heart misgave him. The lady was sitting on the nurse's lap.

The nurse proposed that she lie down. Now was his chance to show his skill and familiarity with such occasions.

"Oh no," he said, "you need not lie down, I will make it just as you are."

So he proceeded to insinuate his hand carefully under the clothing, passed it along the adductor muscles, and was just about to insert the index digit into the vulva, when the nurse suddenly screamed, "you naughty man, you, take your hand away."

Was that doctor confused, mortified, chagrined, annihilated?

The story does not say, but he returned to his office an humble contrite man, packed his trunk and went to Philadelphia for further practical instruction in the great art of making vaginal examinations. And such, gentlemen, professors of obstetrics collectively, not individually, may be the sad experience of any of your graduates who fail to receive the necessary clinical teaching in this department.

It has been a difficult labor, Mr. President, to tabulate this series of cases from the visiting lists of the various years, and to classify the data which I present to you this evening.

And in this connection I wish to acknowledge the kind assistance of my friend, Dr. W. K. Butler, without whose help it would have been impossible for me to have put the material together.

In tabulating the cases, the following points have been considered:—

1. The average length of gestation from the first day of menstruation.
2. The average time from first day of menstruation until quickening.
3. The sex of children.

4. The sex of children of primiparæ.
  5. The average number of pregnancies.
  6. The average weight of children, males and females.
  7. The duration of labor.
  8. Presentations.
  9. Average ages of parents.
  10. Number of cases of twins.
  11. Oldest and youngest primipara.
- These refer to normal labors.

Then comes mention of the complications of labor observed, such as forceps cases, hour-glass contraction, adherent placenta, congenital hydrocephalus, placenta previa, monstrosities, etc.

1. Average length of gestation from first day of menstruation is given in 256 cases, and is  $278\frac{1}{2}$  days.

2. Average length from first day of menstruation to quickening in 119 cases is  $133\frac{1}{2}$  days.

3. Sex of 413 infants: males, 203; females, 210.

4. Sex of infants of primiparæ, 92 cases: males, 48; females, 44; males predominate.

5. Average number of pregnancies to each mother in 363 cases: 1,232 pregnancies,  $3\frac{1}{2}$  average.

6. Average weight of children in 239 cases, 8.2 lbs. 135 males, 8.4; 104 females, 8.

7. Average duration of labor, from the time pains first began to be regular and characteristic: in 271 cases,  $10\frac{1}{2}$  hours; in 69 primiparæ, 16.8.

8. Presentations and positions. 279 vertex presentations: vertex, 97 (vertex only mentioned); v. 1, 133; v. 2, 21; v. 3, 6; v. 4, 16; v. 5, 4 (v. to *os pubis*); v. 6, 3 (v. to prom. of sacrum).

Eleven breech presentations: breech only mentioned, 6; b. 1, 3; b. 4, 2.

Face, 2 cases; footling, 2 cases; head and breast, 1 case; body, 1 case; shoulder, 2 cases; brow, 2 cases.

9. Average age of parents:

Mothers under 25 years, 106; between 25 and 35, 180; 35 and over, 78=364.

Fathers under 25 years, 32; between 25 and 35, 171; 35 and over, 147=350.

10. Number of cases of twins, 5.

11. Youngest primipara, 15 (first case); oldest primipara, 38. Both had normal labors.

I present these statistics without comment for what they are worth. I have not compared them with the general statistics on the subject.

Forceps cases number 43.

In 6 cases the cause of using the forceps is not stated.

In 26 cases it is variously stated, as tedious labor, feeble pains,

rigid os, rigid perineum, uterine inertia, etc. In 2 of these cases the presentation was v. 4; in 2, v. 6; in 1, v. 3; and 1, v. 5.

All of these cases may be classed as delayed or tedious labor.

In most of them labor would probably have terminated naturally without forceps; but the use of instruments saved the mother much suffering, and I have no doubt saved the lives of some of the infants.

We have then: tedious labor, etc., 26; ankylosed coccyx, 2; hour-glass contraction, 2; brow presentation, 2; convulsions, 1; face presentation, 2; head and breast, 1; hydrocephalus, 1: not stated, 6. Total, 43.

One fact in connection with the forceps cases, which I feel constrained to put on record, but of which I am not proud, and which is open to just criticism, is that forceps were not used at all up to the 160th case.

This is an open confession that carries with it a moral, bearing upon the question with which this paper started out, namely, the importance of giving medical students clinical instruction in the practice of obstetrics.

How is the fact that one hundred and fifty-nine cases of labor were attended without forceps having been used—these cases being consecutive from the first one? Speaking very candidly, as I review the question, I believe there are two principal reasons: First, a want of familiarity with the class of cases in which these instruments are useful, and lack of confidence as to the technique of their application.

Second, the young practitioner has more time and patience at his command, to wait calmly the course of events.

As to the first of these reasons, the moral is evident: that the newly-fledged doctor should have received, by clinical instruction at the bedside, the *practical* knowledge of the mode of conducting labor—just when and how he may assist with advantage—that otherwise he must learn by experience when in actual practice.

As to the second reason, that a young practitioner has more time and patience to wait upon nature in serious cases (I am aware that thus stating will subject me to the fiery darts of criticism from the learned members of this Society, but believing it to be not devoid of truth, I make the statement). I speak, of course, only of my own experience. Perhaps, with another, it might be different, and instead of possessing his soul in patience, he might prematurely long for the opportunity of showing his skill with forceps, to the detriment of the patient.

In looking back over these one hundred and fifty-nine cases spared the forceps, I do not see but what they fared as well ultimately as the next one hundred and fifty-nine, which might be used as an argument against forceps, without, I think, proper con-

sideration. It is probable that many of the mothers might, at least, have been saved suffering by their judicious use.

It will be seen that in by far the largest number of forceps cases the cause has been "tedious labor," "ineffective pains," "uterine inertia," all of which come to the same thing.

It is in this class of cases that the sound judgment of the attendant is tested—to determine just when the time for interference comes that shall be of most advantage to mother and child. I dismiss the convenience of doctor in hastening the close of case as unworthy. Further discussion of this question I leave to the Society.

In two cases, forceps were used for ankylosis of the coccyx—the bone yielding as the head advanced. Both cases recovered without trouble, and in both cases the mothers were young. In one, 22 years (case 215); in other, 21 years (case 483).

Thus it will be seen that forceps were used forty-three times out of 340 labors—a percentage of 12.64.

Number of cases of twins, 5; number of cases of congenital hydrocephalus, 2.

In neither of these cases was the hydrocephalus extreme, but sufficient to interfere materially with the progress of labor.

*Case 292, fourth child, previous children healthy.*

The first indication of anything wrong in this case was the head stopping at the superior strait, though the position was favorable and the pains strong. After waiting a reasonable time, I applied forceps, but they slipped off without advancing the head. This was repeated a great many times with the same result. I could pass my finger all around the head, but failed to recognize the trouble. Dr. J. Taber Johnson was called in consultation, and repeated my efforts with the forceps with the same result. The woman by this time showing signs of exhaustion, we decided to turn. This was done, and the child delivered after very severe efforts. Then the hydrocephalus was discovered, but the head was very little enlarged beyond the normal diameters. It acted in the labor like a bladder filled with water, giving no purchase to the instruments and, like a bladder of water, admitted of no compression in its passage through the pelvis.

The second case of hydrocephalus was the seventh child of its mother, all the others being healthy.

It was a breech presentation, and all went well until the head engaged in the superior strait, when it refused to advance any further. After using all the force in traction on the neck that I thought justifiable, I applied forceps, when, behold, they slipped off with that same peculiar feeling that attended the previous case. Repeated efforts with the instruments had the same result. I sent for assistance, but before it came I finally succeeded in delivering the head. Its condition was almost identical with the one just described, very little larger than normal, but baggy from the separation of the sutures with water, and incompressible.

The reason why the forceps slipped off is apparent, and in these cases at least was a diagnostic point of the water-head.

*Placenta previa.*—There were four cases of placenta previa. Two were fatal; colored women attended by ignorant midwives. One was dead when I reached the house, and although three doctors answered the emergency call, we were unable to remove the child. We turned, and progressed favorably, until the head engaged the superior strait, where it stayed, all our efforts to the contrary notwithstanding. Amputation of the neck was done and the head left *in utero*—not altogether an obstetrical proceeding; but, as mother and child were both dead, and the doctors exhausted, it may be excused. This may have been another case of water-head.

The other fatal case of placenta previa was *in articulo mortis* when I saw her. She had been flooding all night, with a midwife beside her, until five o'clock in the morning. When I was called, two blankets and the mattress under her were saturated, and the blood dripping through on to the floor.

She died a few minutes after I first saw her, undelivered.

The third case was partial placenta previa, with profuse flooding during labor, so that I became alarmed and hurried off for assistance. I was gone but a few minutes, to return and find the child delivered.

The pains had suddenly increased in force and accomplished the delivery.

The fourth case was at seven months.

The mother, one morning while on the vessel urinating, felt a gush of something, and found the chamber half full of blood. This recurred shortly after, when I was summoned.

Dr. A. F. A. King was called in consultation, and one or the other of us remained with her constantly until the following day, when, the hemorrhage recurring, labor was induced, and the child delivered—dead. The mother recovered without a bad symptom.

*Adherent placenta.*—There were three cases in which the placenta was entirely adherent.

This does not include cases of partial adhesions which were easily separated.

The first of these cases died of septicemia, the placenta undelivered; undoubtedly bad practice.

The second case also died of septicemia. It was the second child of the mother, the placenta at the first labor having been partially adherent, but easily removed by the hand. Recovery after the first labor was prompt.

The case now under consideration was a breech presentation and a natural labor until the third stage, when the placenta was found to be entirely adherent. It was removed piecemeal with great difficulty; Dr. W. P. Johnston in consultation.

The third case of adherent placenta recovered, the placenta likewise having been removed with great difficulty.

Of course, there can be no doubt of the proper treatment of such cases. Why the placenta was left in the first case I cannot at this time recall.

Case 152 was of interest in that it was a six and a half months' child, weighed two and a half pounds, and *lived*. It was rolled up in flannel and kept under the stove for three days, when breast milk was dropped into its mouth, drop at a time, until after a few days it began to nurse.

At 6 months of age, he weighed seventeen pounds, and I believe is now nearly old enough to vote.

*Puerperal convulsions.*—Three cases. One case (52) died on third day, the convulsions continuing after birth of child. This patient had violent headache at intervals during whole pregnancy, and was in a constant state of nervous excitement from ill-treatment by husband. Autopsy showed "adhesion of dura mater with clot at base of right middle lobe of cerebrum as large as a hickory nut. Also about one fluidounce of serum at base of brain."

*Puerperal fever.*—Five cases, two of which, those with adherent placenta, died.

The other three recovered without bad complications.

This does not include cases seen in consultation, and which were not in my own practice.

*Chorea in Pregnancy.*—Two cases, both severe, one excessively violent. Both recovered. Sulphate of zinc in doses of ten grains every four hours seemed to cure the disease.

In case 97, there was retention of a dead six months' fetus *in utero* for three and a half months. The mother, when six months gone, received a severe shock from running against a half-open door in the dark.

Motions of the child, which had been very active, ceased, and symptoms of pregnancy disappeared. This was April 15th. I waited until July 3d, when, no signs of labor appearing, brought it on artificially, and delivered a six months' fetus in a state of good preservation, in a condition of commencing adipocire.

Recovery was prompt for mother.

*Hydatids.*—Two cases, both about fifth month of gestation.

In another case, the woman believed herself pregnant up to full term; felt motions and had other symptoms. She had already had one child. I saw her frequently during the supposed pregnancy, and was finally sent for to attend her in labor, as pains had begun.

She appeared very small in the abdomen, and the hand upon it failed to detect any uterine tumor.

Vaginal examination showed the uterus unimpregnated.

Mrs. C. was greatly astonished when I informed her she was not even pregnant. At first refused to believe it and was indignant, then, when satisfied I was correct, was greatly mortified.

This was the more remarkable as the woman was small in stature and very thin, not weighing at her best over ninety pounds.

*Puerperal Mania.*—Two cases. Recovery.

*Monstrosities.*—Two cases of acephalus; one case partial development of brain; eyelids closed by membrane, and a large proportion of small intestines outside the abdominal cavity at the umbilicus, hare lip and cleft palate.

*Talipes varus.*—Three cases.

*Mortality.*—Five deaths; two from placenta previa; two from septicemia following adherent placenta; one from puerperal convulsions; just one per cent.

But the two cases of placenta previa hardly belong to the list,



for one was dead when I first saw her, and the other in articulo mortis.

So that, eliminating these two, there were three deaths in the five hundred cases, or three-fifths of one per cent. In closing, I apologize for not having been able to work out the details of these cases more completely.

It has been a much greater labor than I anticipated, and I have only at the last minute been able to complete the paper to this point.

I leave deductions and discussion to the Society.

DR. T. C. SMITH, in opening the discussion, said there was much in Dr. Prentiss' paper to commend, especially as it was in the line of work laid out by the Society. He indorsed what had been said concerning the necessity for teaching obstetrics as other branches of medicine were taught, that is, clinically. Something more should be provided for students to study midwifery than manikins. If they were going to practise on manikins, it would be right to continue to teach them in that manner; but if they were to attend women in their greatest trials, they should be taught at the bedside how to follow their calling.

The weight of new-born infants, as given by Dr. Prentiss, is greater than that stated in the text-books. Authorities give the average weight of infants at birth, at from six and a half to seven and quarter pounds, while Dr. Prentiss' figures are a fraction over eight pounds. Dr. Smith rarely sees a child born that weighs as little as seven pounds; on the contrary, he delivers more children weighing twelve pounds than those weighing seven.

He thinks Dr. Prentiss is in error when he credits seven cases to the fifth and sixth presentations of the vertex. When either of these presentations is observed, it is to be regarded as transitional, and not an original position; consequently the doctor is wrong when he assumes that in so many of his cases these discarded presentations were found to exist.

Dr. Prentiss is to be commended for his frequent recourse to instrumental delivery. His results prove that his practice was correct. He would ask Dr. Prentiss if he had had any cases of vesico-vaginal fistula, or other serious injury which he could attribute to the use of forceps.

An interesting fact brought out by Dr. Prentiss is that in five hundred cases he did not find one in which marked deformity of the pelvis existed. The inference is, that women with deformed pelves are not often met with in this locality.

Dr. S. did not wish to be considered hard-hearted when he said he was glad Dr. Prentiss had reported some deaths in his obstetrical practice. When a doctor loses a few patients under such circumstances, he learns to be conservative, and is charitable towards his professional brother who may be unfortunate enough to have a case terminate unfavorably. When a practitioner boasts that he has never lost a woman in confinement, it is to be inferred that his obstetrical experience is not great, or that he practises a faultless system. In either case, the loss of a patient takes the vanity out of him, and gives him something to think about.

Inasmuch as Dr. Prentiss had reported so few cases of septic infection in the patients delivered by him, it might be well to ask

if this immunity had been secured through the use of antiseptics, and he would further ask the doctor to what extent he resorted to those agents.

DR. WINTER, in referring to one of Dr. Prentiss' monstrosities, the one having but one eye, in the middle of the forehead, and an umbilical tumor which contained the intestines, said that two years later he was called to the same woman, who gave birth to another monstrosity, that the labor was perfectly natural until after the shoulders were born, then the body came very slowly, and finally stopped at the hips. The child died in this position. The doctor sent home for his instruments, and, on receiving them, introduced a hook under the knee, and brought down one leg, and then the other in the same manner, which left the child sitting in his mother's vulva. Fearing that he had a case like the double girl to deal with, he asked for assistance, but before the messenger left the house he succeeded, after considerable effort, in delivering what proved to be a tumor attached to the child's buttock, and nearly as large as the child's body. It was filled with material of a jelly-like consistence. He has had over four hundred cases of labor, with but four or five deaths, nine cases of twins, and one of triplets.

DR. FRY said, in discussing the interesting paper presented by Dr. Prentiss, he would limit his remarks to a single feature of the many introduced, viz., *mortality*. The chief aim in practising obstetrics is to save life.

Dr. Prentiss is to be congratulated on the fact that the average duration of the labors reported was ten hours for multiparæ and sixteen for primiparæ—a result indicating the judicious use of forceps. This instrument was applied in eight per cent of the total number of cases reported, and in thirteen per cent of the last three hundred and sixty labors. This practice is conservative by removing those debilitating effects of prolonged labor which leave the exhausted patient susceptible to the development of post-partum complications.

Deaths resulting from child bearing are to a great extent avoidable.

In these five hundred labors, Dr. P. has lost one per cent of his cases. Leaving out of consideration the two fatal cases of placenta previa, because not seen until moribund, his mortality is reduced to three-fifths of one per cent. Deaths from placenta previa are to a certain extent avoidable. Gushes of blood from the vagina after the seventh month of gestation usually lead to an early recognition of the complication. The induction of premature labor is earnestly demanded. Delay may sacrifice the mother's life, while that of the infant is already precarious. The recognition of placenta previa is rarely made out before the fetus has reached a viable age, and its chances of surviving are scarcely lessened by induction of premature labor, while the mother's are greatly increased.

Dr. Prentiss reports three cases of puerperal convulsions and one death.

Death in this class of cases is frequently avoided by the systematic examination of the urine of all pregnant women, and by the induction of premature labor, which latter expedient may be demanded by suitable cases.

I do not wish to infer that in any of the above cases Dr. Prentiss had neglected to use every means to save his patients.

Two cases of chorea complicating pregnancy, with recovery of both mothers, is reason to congratulate the author.

Dr. P. mentions the fatal termination of two cases of septicæmia.

Deaths from this cause are pre-eminently avoidable, and, too, it is a cause which, directly and indirectly, claims more victims than all others connected with the child-bearing process.

Let us suppose that A. and B. are practising physicians of equal merit; that they have an equal obstetrical experience; that they practise in the same social element—in fact, let us imagine the surroundings which affect the mortality in the obstetric practice of each to be the same in all respects. Now A. is a firm believer in the germ theory of disease. He carries out rigid antiseptic precautions in all cases of confinements, he uses every effort to prevent the transference of germs to the genitalia of his parturient cases.

B., on the contrary, has no faith in the belief, and takes no pains to avoid infection.

Or, we can imagine that he is not so indifferent, but considers that cleanliness is all that is necessary.

Now, if we could compare the statistics of the two in a large series of cases, the percentage of mortality would be greatly in favor of the practice of A.

This assertion is based upon the remarkable effect of the introduction of antiseptic precautions into maternity and private practice.

The mortality has been reduced to figures that will compare favorably with those presented here to-night. At the maternities of Prague and Copenhagen the death rate during the past four or five years has averaged about one in two hundred labors, and at the Tarnier Pavilion in Paris, no death in nearly one thousand labors.

Among midwives, since antiseptic precautions have been made compulsory, two series, of over one thousand cases each, have been collected with only three deaths apiece.

DR. KING.—There had been no representation of the deformity of the pelvis. It would seem to be rare in this country as compared to Europe. There would seem to be more cases of hydrocephalus in this country. The books tell us that we will meet with one case in 4,000 or 5,000 labors, but Dr. Prentiss met with it in 250 labors.

The presentation is extremely unreliable. The head may be in one position when the labor begins and as labor progresses it may be entirely changed. Throughout these statistics there is a general resemblance to those found in the books.

The transverse position is met with about once in fifty cases. The brow, face, and vertex presentations change so frequently that we never know what it was before we made it out, and we will never know what it will be if it is let alone. These changes are spontaneous.

He thought that Dr. Smith was mistaken in the weight of the children mentioned. The weights are too often exaggerated by enthusiastic friends. They are most usually weighed by the old-fashioned spring scales which are not very accurate. He had only met with one child which weighed thirteen pounds; it was a male, had gone over the time, was covered with vernix caseosa, and its

head was an inch larger in each of its diameters than that usually recognized.

DR. J. FORD THOMPSON.—Papers and books are constantly being written on antiseptic midwifery, to which he took exception. What Dr. Fry calls perfect antisepsis he did not consider such. Perfect antisepsis cannot be applied to midwifery. It is one of the most difficult things in general surgery to keep a wound aseptic. Where the surgeon has to deal with cavities he often fails to secure asepsis. He may irrigate and observe all the rules of antiseptic surgery and then not accomplish the desired end. The wound is dressed and covered with antiseptic gauze and bandages, and the greatest care may be taken to prevent the germs from entering it, but even then suppuration and septicemia may take place. Then in obstetric practice such results as are claimed are impossible. It is simply cleanliness. In surgery also cleanliness accomplishes a great deal. Asepsis is secured simply because it is cleanliness.

If one should inject into the puerperal uterus enough corrosive sublimate or carbolic acid to kill the germs, it would do great injury to the woman. After labor the secretions are going on all the time, and the patient is exposed to the dangers of the absorption of septic material.

In the Rotunda Hospital, where the favorable change is reported, it was only due to cleanliness. This is not antiseptic practice, but cleanliness.

Who ever expected to operate on piles antiseptically? Or use antiseptic surgery in the bladder? It is impossible to expect anything more than can be gained by cleanliness. He was not speaking against the practice of cleanliness, but disputed that such practices meant antiseptic surgery; he had always been a firm believer in and practised antiseptic surgery, and would not antagonize the practice in obstetrics. What he claimed was, that it was impossible to apply perfect antisepsis in obstetric practice.

DR. HAGNER believed in disinfecting the puerperal uterus. Dr. Fry did not mean antisepsis, such as Dr. Thompson would use in dressing a wound, but he did mean something more than mere cleanliness. He thought the introduction of iodoform suppositories in the uterus would do good. The vagina is not an open tube, but is closed by the folds of mucous membrane, and it is not so easy for germs to get into it. By using antiseptic precautions we may not kill the germs, but we will cripple them. He believed in the antiseptic pad. It is quite remarkable that Dr. Prentiss should have sewed up the perineum twenty-three years ago. He thought the primary operation was introduced much later, in fact within the last fifteen years.

DR. THOMPSON.—Iodoform will not kill bacteria, but it has been shown by laboratory experiments that it prevents secretions and sterilizes the field and may thus do good. Disinfecting the parts with water will do just as much good as weak solutions of carbolic acid, but it will not kill the germs. One cannot operate on a cleft palate antiseptically, but he would use cleanliness. So we may secure better results by washing out the vagina, but we do not get the results of true antiseptic surgery.

DR. W. W. JOHNSTON was surprised to hear Dr. Thompson discourage the use of antiseptics in midwifery. Antiseptic surgery is an attempt to destroy poisonous germs, but it is yet imperfect in its methods and often unsuccessful. The time may come when

every wound can be made absolutely aseptic, but it has not come yet. Then why should we exclude obstetric practice from the benefits of what may be still an imperfect act? Obstetrics in the future may become the highest domain of antiseptic practice. Already since its introduction the whole field of obstetrics has been changed, and better results can be confidently expected.

DR. KING.—The obstetrician did not expect to secure absolute perfection in antiseptics.

DR. THOMPSON.—In antiseptic surgery, which he had been faithfully practising ever since it was first introduced by Lister, the results which were claimed in obstetrics had not been obtained. In a recent case upon which he had operated, he used antiseptic dressings and did not look at the wound for two weeks after the day of operation. Antisepsis is one of the greatest advances in modern surgery. In order to get good results, it is necessary to thoroughly cleanse all the instruments and allow them to soak in the antiseptic solutions; the operator should thoroughly disinfect himself; the part should be kept clean; and the proper dressing should be applied.

DR. KING.—A solution of corrosive sublimate 1 to 10,000 is sufficient to prevent the development of germs. If the injections washed out 5,000,000 and left 5,000,000 it would do some good. The more germs are left the worse it is for the patient. If the vagina is washed out and then protected by the iodoform gauze and pad, it would be about as near antiseptic as some of Dr. Thompson's cases. Dr. Prentiss did not use antisepsis. The antisepsis of obstetrics cannot properly be compared to that of surgery. A certain number of natural cases will get well without any antisepsis. By examining the mortality statistics of lying-in hospitals ten years ago and now we will see the advantage of antisepsis. The mortality was large then, but now it is less than one per cent. Such results are due to careful antisepsis and not simply to cleanliness.

DR. FRY wished to add a few words to what he had already said. Dr. Thompson claims that cleanliness accomplishes all the good that is ascribed to the use of antiseptics, and that the employment of boiled water is as efficient as that of antiseptic solutions. Further, he argues, that because the vaginal and uterine surfaces cannot be made perfectly antiseptic, douches are valueless.

Now if mere cleanliness will accomplish the purpose, why do he and the surgeon he quotes use *boiled* water? He boils it because ebullition destroys the micro-organisms contained in the water. Then, if this is advisable, why does he object to adding an agent which is known to be capable of destroying germs? Not only those in the water, but the organisms with which the solution comes in contact. Solutions of bichloride of mercury have greater microbicidal properties than have been mentioned to-night. The bichloride will prevent the development of pathological micro-organisms in the proportion of 1 to 40,000, it will destroy them in 1 to 20,000. Boiling is not always effectual in sterilizing water which contains spore-producing bacteria. Spores possess an incredible vitality.

But it has been demonstrated practically that cleanliness is not *per se* sufficient to overcome puerperal septic infection.

If we will study the history of puerperal fever and the high mortality that existed in hospitals, we will find that the death rate diminished in proportion to the measures employed to combat the disease. We will find that ventilation, isolation, and *cleanliness*



were strictly enforced, and that while the death rate decreased it still remained high. The employment of antiseptic agents, however, in conjunction with these means immediately brought about a reformation, and the statistics of maternities can now be brought to compare with the best of those in private practice, and epidemics of puerperal fever no longer exist.

In regard to the second proposition of Dr. Thompson that it is useless to employ antiseptic vaginal and uterine douches, because we cannot render the canal perfectly antiseptic, I would add that micro-organisms, during development and growth, evolve a poison, *ptomaine sepsin*, which when absorbed gives rise to phenomena of infection. The intensity of the symptoms is in proportion to the amount of poison absorbed. Now if we employ injections to destroy these micro-organisms and prevent their multiplication, we limit the amount of *ptomaine* generated by them in proportion to the microbicidal power of the solution employed.

In this discussion to-night, antiseptic *precautions* and antiseptic *treatment* are confounded. Reference is made to antiseptic vaginal and uterine injections, to iodoform suppositories, etc., without distinction. These do not belong to antiseptic precautions properly speaking, and their use is not indicated unless there exists a necessity for antiseptic treatment.

In antiseptic precautions the agents are used externally—upon the hands, instruments, etc. Every effort is made to prevent the conveyance of germs to the parts by applying the antiseptics to the *vehicles of contagion*.

If the necessity for douches arises, it indicates that these precautions have been insufficient.

Having gained a foothold, the germs manifest their presence by the occurrence of fetid lochia or by evidences of toxic poisoning, and then we must combat them with antiseptic injections, etc.

Dr. Cook had had two cases where the women said they did not know that they were pregnant. The first was an unmarried primipara who insisted that she had had her menses regularly during the whole pregnancy. The other was a Frenchwoman, the mother of several children. He had been called to her during the summer of 1887 and supposed she had gastric catarrh. She said she was not pregnant nor, indeed, was it suspected. Dr. W. W. Johnston saw the case with him and malignant disease was suspected and the matter ejected from the stomach was examined without shedding any light on the subject. Not long since he was called to see this patient and found her being treated with domestic remedies for the colic. Her abdomen was covered with cataplasms. She now insisted that she could not be pregnant, but he delivered her in about an hour of a well-developed child.

Dr. PRENTISS, in closing the discussion, said he had made no attempt to tabulate the ruptures of the perineum. He had had but one case in which there was rupture into the rectum, but none where the rupture extended into the bladder. In this case, a breech delivery in a primipara, forceps were not used, there was no rupture observed at the time of birth, and the nurse made examination for rupture and reported none. She progressed favorably until the eighth day, when, there being a spontaneous evacuation of feces, he made an examination and found a rupture into the rectum, due to sloughing of perineum.

Had not noted any case of deformed pelvis.

Had not had a case of post-partum hemorrhage.



He does not always give ergot, but depends upon the circumstances of the case. He does not know why he should have had so few cases of puerperal fever. There were a few mild cases of septicemia with slight fever and some tenderness. Of the two cases of retained placenta, the treatment of the first was indefensible in leaving the placenta *in utero*, and he could not now remember why he left it. In the other case the placenta was removed with the assistance of Dr. W. P. Johnston. Intra-uterine injections of carbolic acid were subsequently used, but patient died. He had not taken the antiseptic precautions in the sense referred to by Dr. Fry. He does not interfere with the conditions of normal labor; does not give ante-partum injections. Antiseptic injections were only given in cases of offensive lochia. The vagina is a closed tube, as stated by Dr. Hagner, and injections are liable to introduce the germs of disease, therefore they should be limited to those cases that require them. Injections have very little effect in killing bacteria. Some forms of bacteria are innocuous, or even perhaps beneficial, while others destroy life. There are two sides to antiseptic midwifery. Another cause of septicemia is often overlooked, viz., leaving small shreds of the membranes in the vagina or uterus which result in an offensive discharge. Every particle of the membranes should be removed at the time of delivery of placenta.

During the past fifteen years ruptures in primiparæ had been quite common. It had been his uniform practice to sew them up at once, and he usually secured primary union.

In all instances where weight was given, he had weighed the children, so these weights were accurate. Had had but two weighing over twelve pounds. The first seemed enormous and weighed twelve and one-half and the second twelve and one-half.

---

*Stated Meeting, May 4th, 1888.*

DR. S. C. BUSEY, *President, in the Chair.*

DR. JOHN T. WINTER read the paper of the evening:

#### CROUP.<sup>1</sup>

DR. S. S. ADAMS, in opening the discussion, said he would state in the beginning that Dr. Winter and himself differed in toto. He believed that diphtheria and croup were identical, with only this difference, that it is diphtheria when located in the pharynx, and croup when in the larynx. The membrane is identical.

Acute catarrhal laryngitis (false or spasmodic croup) is defined to be a catarrhal inflammation of the mucous membrane and sub-mucous tissue. The mucous membrane is reddened and tumefied; the secretion is changed in character or in quantity, and may be mucous, muco-purulent, or serous. Children are more liable to this than adults, and infants than children. Twenty per cent of all cases occur under one year; twenty-five per cent from the first to the second; and fifteen from the second to the third. Not many cases occur after the twelfth year. The diagnosis is not easy in all cases, but the fibrinous exudation will settle it. There is tough, viscid mucus. Stenosis is rapid, while in diphtheritic laryngitis it is slowly developed.

<sup>1</sup> See Original Articles in this number.

In pseudo-membranous laryngitis, there is present on and in the mucous membrane a pseudo-membrane of a whitish-gray color, varying in consistency, and with different degrees of attachment. It has been called croupous when lying on the mucous membrane without changing much, or at all, the subjacent epithelium and removed without any difficulty. It has been called diphtheritic when it was imbedded into the mucous membrane and was difficult to remove. The histological elements of the two varieties are the same, and the difference of removability may be explained by the anatomical conditions of the territory in which they make their appearance.

The membrane consists of a net of fibrin studded with and covering conglomerates of round cells, mixed with mucous corpuscles, epithelial cells more or less changed, and a few blood-cells.

Steiner says of croup: "It is a form of inflammation of the larynx in which a fibrinous, yellow-white exudation takes place upon the mucous surface, which is loosely attached, is readily and frequently regenerated, produces no loss of substance, and leaves behind no cicatrices. In diphtheria, the lesion is similar to that of croup, only with this difference, that in croup the exudation takes place upon the free surface of the mucous membrane, while in diphtheria it occurs at the same time within the tissue, and thus produces necrosis and loss of substance of the mucous membrane. The attempt to distinguish croup and diphtheria as two entirely distinct diseases has been unsuccessful, both from an anatomical and from a clinical standpoint; indeed, there are many good reasons for supposing that these two affections are only varieties and modifications of one and the same process, which, in consequence of special influences and collateral causes, as yet imperfectly understood, makes its appearance at one time as croup, at another as diphtheria; now in a sporadic form, now as a widespread epidemic; now as a primary, and, now again, as a secondary affection."

Virchow believes in the non-identity of croup and diphtheria, while Gerhardt maintains their identity.

Both diseases are primarily local, and become general by the absorption of septic material.

He thought it would be dangerous practice to apply topical remedies through the tracheotomy tube. He had seen the operation a number of times, and the surgeon was content to let the disease progress without local treatment after tracheotomy. He thought it had been demonstrated that in spraying the throat with lime-water from a steam atomizer very little, if any, lime impregnated the steam. He thought that further experience would prove to Dr. Winter that croup is contagious.

DR. PRENTISS.—The subject of Dr. Winter's paper is too broad to attempt to cover all of it. There is one point of interest, the differential diagnosis between laryngitis and membranous croup. He has a case in an infant now under observation where the voice was husky, with a hoarse, croupy cough; the fever and croupy symptoms were aggravated at night; this condition lasted for four or five days, and he was constantly expecting to find membrane, but it had not appeared, and yesterday he was much better. This was a case in which any one would have suspected membranous laryngitis. He had seen several similar cases during the past year, but they turned out to be only catarrhal in their nature. The symptoms observed, which appear different from true croup, were the

character of the voice and the cough. In catarrhal laryngitis, the voice was not entirely lost, though very hoarse, and the cough is hoarse and looser; in membranous croup, there is complete loss of voice, and the cough is dry and stridulous. In the early symptoms there is no difference. He thought in membranous croup we would always find traces of membrane in the fauces as the case advanced. During the past few years he had been strongly convinced of the value of the mercurials in the treatment of diphtheria. He agreed with Dr. Adams that the difference in croup and diphtheria was only in the difference of location of the membrane; diphtheria when it appeared first in the pharynx, and croup when it began in the larynx.

DR. W. W. JOHNSTON. — If there was no pathological difference, why did we not find ulcerations in the larynx similar to those found in the pharynx?

It is very difficult to determine the identity of the two diseases. The French believed in their identity, while many English and American authors contended for their duality. Membranous croup is not, in his experience, contagious. There is a difference in the clinical history; diphtheritic croup is contagious, and develops very rapidly. The other class develops more slowly and insidiously, beginning as simple or as spasmodic laryngitis, and then developing into the membranous variety. In the latter form he had never seen a second case of true croup or diphtheria result from contagion.

DR. MACARDLE. — Had Dr. J. ever seen the opposite?

DR. JOHNSTON had not. Diphtheritic cases, the result of contagion, first showed the pseudo-membrane over the tonsils, and were not primarily laryngeal.

DR. MACARDLE had seen true croup follow a case of diphtheria. The first case was a child, 5 years old, and had diphtheria; and in the second case, a brother, there was no membrane on the fauces, but the child had croup.

DR. JOHNSTON in private practice had not seen any contagion from croup. If the two diseases are identical, why do we not sometimes find ulceration of the larynx? Diphtheria means destruction of tissue. He had made many autopsies of fatal cases of membranous croup, but had not yet found any ulceration. Early death is not the cause of this. Death sometimes occurs much later than in pharyngeal diphtheria, hence the popular name of chronic croup. A child was operated on for tracheotomy in the Children's Hospital some years ago, and lived four or five days. It ejected, through the tube, large numbers of membranous moulds of the larynx. The autopsy revealed no ulceration of the larynx. This is not so on the tonsils and pharynx, where the ulcerative process is so common. The non-contagiousness and absence of ulceration are two great objections to the theory of the identity of diphtheria and simple pseudo-membranous laryngitis.

DR. MACARDLE. — But the patients referred to by him had been exposed to the same influences.

DR. JOHNSTON. — He had only seen one case of true croup get well without operation. In this, the atomizer was used every hour during the whole course of the disease. Operation is the proper treatment. In the Paris Children's Hospital they operate largely. In this country, the operation is put off too long, and the child is nearly dead before we can get the consent of the parents. He had but re-

cently had a case with Dr. Fenwick, but the parents would not consent to an operation when the chances were favorable for a good result. Had a case of diphtheritic croup some years ago. The patient was suffocating, and he sent for Dr. Thompson to operate. It was almost dead when he saw the doctor coming up the street, and death actually occurred before he entered the house. The trachea was at once opened by Dr. Thompson, the child began to breathe, and rallied at once. About a week after the operation, it made some undue exertion and suddenly died.

DR. PRENTISS had begun the study of the duality and unity of the disease some years ago, as the records of the medical society would show. He had been led to this investigation from his clinical experience with diphtheria that terminated in symptoms identical with diphtheritic croup. He was satisfied that there is no difference. He would defy any one to tell the difference, clinically, between a case which begins in the pharynx and extends to the larynx, and one which begins in the larynx. In one, the membrane extends downward, and in the other upwards. He believed diphtheria to be primarily a local disease, with subsequent constitutional manifestations from the absorption of septic material. The constitutional symptoms are severer in the pharyngeal form, because there are more lymphatics to absorb the septic material; and where it extends into the nasal passages, the absorption is still greater. He had the honor of reporting the first case of successful tracheotomy in membranous laryngitis reported in this city. Dr. Ford Thompson performed the operation, and the patient died six weeks later of diffuse bronchitis, after the tube had been removed. A brother of this patient died of croup, and there was no appearance of membrane in the pharynx. The second boy undoubtedly took the disease from his brother. If those with primary croup would cough up the membrane, it would be contagious enough. There is this difference in the two locations: in the laryngeal form the membrane is seldom coughed up, while the pharyngeal the atmosphere is laden with secretions from the pharynx. In laryngeal croup, the child usually dies before it has time to extend to the pharynx. Flint puts the duration of croup at four days, seldom beyond six. The patient dies before septicemia takes place, which latter is uncommon in the laryngeal form, on account of the scarcity of lymphatics, the limited blood supply, and the slow absorption of the larynx.

He had had two recoveries. In one, a child, 11 months old, he believed it was due to turpeth mineral as an emetic; and in the other, 18 months old, to pilocarpine. In both, the membrane was coughed up.

DR. FENWICK had had about forty cases of diphtheria in twenty-nine years. Had had five recoveries, three from diphtheria, and two from membranous croup. The membranous croup were not severe forms. In simple croup, the patients are generally short-necked and plethoric. In membranous croup, there is not much fever.

DR. W. W. JOHNSTON.—If one fact of a theory cannot be explained, then the theory is untenable. In membranous croup, there is no ulceration; in diphtheria, there is ulceration. Therefore, it must be a different kind of pathological process. Anatomically there is this difference, but clinically there is a great difference.

DR. PRENTISS.—In diphtheria, there may be great destruction

of tissue, or there may be ulceration only where the membrane started, and from this point the healthy mucous membrane may be covered with the pseudo-membrane. We do not always find ulceration where the membrane appears. There are cases of mild pharyngeal diphtheria without discoverable ulceration.

DR. W. W. JOHNSTON.—Dr. Prentiss had found a case of croup after diphtheria, but he may have overlooked a small patch of membrane on the pharynx.

DR. WINTER had seen a good many cases and never isolated, and had never seen a second by contagion. Had seen diphtheria and diphtheritic croup. Diphtheritic croup developed and the child died without any evidence of membrane in the pharynx.

---

*Stated Meeting, May 18th, 1888.*

DR. S. C. BUSEY, *President, in the Chair.*

DR. JOS. TABER JOHNSON presented the specimen, and read the history of

A CASE OF REMOVAL OF THE UTERINE APPENDAGES FOR THE CURE OF NYMPHOMANIA AND UTERINE MYOMA; DEATH ON THE NINTH DAY FROM SEPTIC PERITONITIS, CAUSED BY THE RUPTURE OF AN ABSCESS.<sup>1</sup>

DR. G. W. JOHNSTON.—Did she have any fever?

DR. J. TABER JOHNSON.—The temperature never reached 100° until the eighth day when the abscess ruptured.

DR. J. FORD THOMPSON reported a case of

LACERATION OF THE PERINEUM IN A CHILD SEVEN YEARS OLD.

History.—She was standing on an iron fence and fell, striking the perineum against a knob on the top of a post. He saw her two hours after the accident, and everything about the perineum seemed to be lacerated. Upon closer examination, he found the vaginal wall torn as far as the cervix; the sphincter ani and the rectum were also torn. There was only a slight hemorrhage.

With forceps, curved needles, and the continuous suture, the vaginal rent was brought together; deep sutures were passed through the perineum from side to side, and others were introduced around the anus; the legs were then tied together. To-day she was sitting up and was very lively. There was no swelling, and the healing was going on nicely. He directed her nurse to put her on the commode every time she passed water, so as to prevent irritation by the urine. By taking this precaution, he hoped to secure union by the first intention.

He had never seen such a destruction of the tissues, as it was worse than the worst ruptures that occur during parturition.

<sup>1</sup> See Original Articles in this number.



DR. THOMAS E. McARDLE read the essay of the evening:

THE PHYSICAL EVILS RESULTING FROM THE PREVENTION OF  
CONCEPTION.<sup>1</sup>

DR. GEORGE WOODRUFF JOHNSTON, in opening the discussion, said: The ability to write upon this somewhat disagreeable subject with frankness and force, and at the same time with dignity and reserve, was not given to every one, although Dr. MacArdle had combined these literary virtues in his paper to a remarkable degree. There were four points to which Dr. MacArdle seemed especially to direct the attention of the Society, namely: 1. To what extent does the practice of artificially thwarting conception exist? 2. What harm do these practices produce? 3. How is the physician to become cognizant of their existence? and 4. How is he to put a stop to them?

The speaker observed that he felt some hesitancy in approaching this subject. He believed that no two members of the Society would agree as to any of the four points just alluded to, for, while women might be willing to confess many things to their physicians, it was questionable if many of them would admit, at least those of finer fibre, that they were a party to such secretive and reprehensible practices. The physician also, on his part, would be loth to tax a woman of refined instincts, who had reposed no such confidence in him, with taking part in the methods alluded to in the paper of the evening, even if the results of physical examination aroused his suspicions. And it is very questionable if there exists any pathological condition which would serve to create in the mind of a physician a belief that conception had been prevented where no history of such attempts had been given previously. The speaker was convinced that the amount of injury produced by a systematic employment of any of the different means in use to thwart conception had been greatly exaggerated. He would be unwilling to subscribe to the views attributed to Dr. Goodell by Dr. MacArdle, or to the quotation referring to cancer of the uterus. The only means which he could suggest of finding out the extent to which these practices existed was to invite the confidence of patients suffering from such diseases of the genitalia, or of the general system, as would make it probable that efforts had been made to prevent conception, and to endeavor to obtain from them, by properly made inquiries, a history of their married lives. If the physician is able to satisfy himself that it is with such a case he has to deal, then it is certain that it is his duty to warn his patient of the many evils which some say do, and all admit may, follow upon a continuance of such practices. The moral aspect of this question, he said, is not at present considered.

DR. HARRISON.—Dr. Johnston's scepticism struck him as being rather peculiar. He had been frequently asked by men of the highest standing in the community for better means than they were employing to prevent conception. He was glad of the essay. Some authoritative means should be taken to put a stop to such reprehensible practices as were in common use. The methods of preventing conception in common use are productive of all sorts of ills. The vilest practices are resorted to by the most respectable men. The habit of withdrawal and the use of the veil are the most common.

<sup>1</sup> See Original Articles in this number.



DR. JOHNSTON, in reply to Dr. Harrison, said : He was not skeptical in regard to any phase of the question in hand. He had purposely refrained from expressing any opinion as to the frequency with which conception was hindered by the employment of artificial means in married life. He was, however, convinced that they did not produce the enormous amount of physical injury which had been generally attributed to them.

DR. J. TABER JOHNSON congratulated Dr. MacArdle for treating such a delicate subject in such a delicate manner. He thought the societies throughout the country should issue some instruction, either by pamphlet or otherwise, to show married people that by resorting to the usual methods of preventing conception they were undermining their constitutions. A great loss is sustained and the system is injured by the perversion of the sexual act. Excessive indulgence too often occurs where no risk of conception follows. Where preventive measures are used, otherwise excellent citizens will commit the most beastly acts without knowing that they are really injuring themselves. Peculiar mental and physical symptoms result from sexual excess and onanism. He could recall a number of instances where he had to instruct the man and in six months after he reported that he was a new man. He had known cases where preventive measures did harm. He was called one night to a woman with uterine colic who admitted that she had syringed the vagina, immediately after copulation, with ice water, some of which had entered the uterus and caused the most intense uterine colic. It is necessary to complete the act for the comfort and satisfaction of the woman and if the purpose is thwarted she suffers the consequences.

Some time ago he had seen a book on conjugal frauds which gave a large number of cases where women with old husbands had young lovers. These lovers would indulge in partial intercourse. This double life was kept up for some time, when the lovers would consult a physician for various ailments, and finally their mistresses would consult him for similar ailments, produced by these precautionary methods. He believed that partial intercourse proved injurious in a majority of cases. He had been consulted by a prominent lady in this city for a highly nervous state of mind. She complained that her husband would sometimes dally and tease her for some time and get her excited ; finally he would begin the act of copulation and withdraw before she experienced the orgasm. This made her exceedingly nervous and she would be unable to sleep, while he would sleep all night long. But the next morning he was broken up. The health of both is being seriously injured by this experience. His practices are becoming so repulsive to her refined tastes that she says she cannot endure them much longer, and domestic incompatibilities threaten the peace of this family.

DR. J. FORD THOMPSON.—This was a subject that all practitioners had given some attention to and should be treated upon strictly scientific grounds and in an open manner. He had paid attention especially to the influence of the methods used to prevent conception upon the male sex. He thought there was too much sentimentality and modesty in treating such a vital subject. The distribution of pamphlets, or any other authoritative publication of the supposed injurious effects arising from the methods of preventing conception, would have no effect in abating or stopping them. Instead of gaining anything by such methods, the public mind is at-

tracted to them. There is in fact less modesty and virtue than twenty years ago, and the discussion of such subjects in print only tends to excite the passions of both sexes. A great deal has been said and written on this subject that is not true either scientifically or in fact. There is no proof that preventive measures do any harm. Over indulgence may affect the male injuriously, but self-limitation does not. What difference physiologically does it make whether the emission takes place in a condom or in the vagina? None, because the sensations are the same and the effect on the male is the same. The most common method is withdrawal, and what difference does it make? There is more room for unpleasant effects than from emission in a sheath, but he doubted any deleterious effect. The sexual act is not completed, but the emission takes place, consequently he doubted whether this method was attended with any injurious effect upon the male.

Now, on the part of the female, let us consider the effects of these methods upon her organism. With the use of the condom the sexual act is completed. He did not believe in the many theories of the part the female organ takes in coition, such as the descent and opening of the cervix and the aspirating effect of the uterus. The method of withdrawal may occasionally injure a female, but such cases are not as frequent or numerous as we are led to suppose. The orgasm in the female is not hastened by the emission of the male, but precedes it. If this is true, then withdrawal is not injurious to her; and if it is not true, the only effect is to leave her unsatisfied. The use of the hood by the woman is practically the same as the use of the condom by the man and does not interfere with the complete act of coition. So far then as mechanical appliances are concerned, there is no proof that they do any harm to either party and their evil effects have been greatly exaggerated. Withdrawal is the only case where physical injury may result, and even this is very doubtful.

The cold-water douche may have a deleterious effect upon the female, but it is questionable whether tepid water or water impregnated with carbolic acid or astringents injures her. It cannot be proved that any of these methods are injurious.

He thought greater harm was done by continuing copulation during pregnancy. The undeveloped uterus is less likely to suffer from the methods used to prevent conception, as well as the physical being of the woman, than from coition and its attendant congestion night after night during the full period of pregnancy, to which are added the risks of labor and the puerperium. Take two women at the end of thirty years of married life, who have been under similar conditions, and the one who has borne children will be worse off, physically, than the other who has continually prevented conception by mechanical means. He would not discuss the moral aspect of the question.

DR. MACARDLE, in closing, said he had gained his point in exciting a discussion. He did not think cancer was often due to preventive measures.

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

*Thursday, June 21st. 1888.*

JOHN WILLIAMS, M.D., *President, in the Chair.*

*Adjourned Debate.* The debate on the papers on Electrolysis in the Treatment of Diseases of Women, read at the last ordinary meeting by Drs. Steavenson, Lovell, Drage, Gibbons and Shaw, was resumed.

DR. PLAYFAIR declared that those who had really mastered the technical details of electrolysis had never found that method useless. It must be justly tried, and then established or condemned, as results may prove. Dr. Playfair, through personal experience, had sufficient evidence to satisfy himself that the agent had great power, but that much was yet to be learnt, cases should be treated by gynecologists and not left to professional electricians and to managers of the electrical department of hospitals; as well leave ovariectomy to the cutlers who make the instruments used in that operation. Passing sounds and electrodes required special knowledge of the diseases of women, and the electrician might not necessarily possess that knowledge. Dr. Steavenson did possess it, but he and others similarly circumstanced must treat their cases as gynecologists, not as electricians. Turning to his own clinical experience, Dr. Playfair believed in the hemostatic effect of the positive pole in the treatment of fibroids and other forms of uterine hemorrhage. It sometimes acted most powerfully and, as far as he could ascertain, permanently in arresting hemorrhage. In other cases, it did good for a time; in only one case had he found it worthless. Dr. Playfair then described some of his own cases. He noted that in none had the patient been laid up, so that the good results could not be attributed to rest. As to the treatment of non-hemorrhagic fibroids by puncture and the negative current, he had only experience through two cases. He believed this variety of treatment to be the most questionable and dangerous manner of applying electricity; besides very few such fibroids required any kind of treatment. In both of Dr. Playfair's cases, a large mass was impacted in the pelvis, causing severe pressure-symptoms. In the first, the tumor had practically disappeared, but there was great constitutional disturbance. In the second, where the pressure had rendered voluntary micturition impossible for a long time, the tumor was much lessened, the patient no longer required the catheter, and felt quite well and comfortable. Dr. Playfair then described some cases which tended to prove that the negative current was of great value in the treatment of severe dysmenorrhea, membranous dysmenorrhea, and aggravated uterine catarrh. Time did not allow him to dwell on the use of electricity in promoting the absorption of inflammatory deposits, and on the use of the interrupted current to relieve pain or to cure amenorrhea.

After three uterine faradizations, a patient commenced to menstruate after seven years of amenorrhea, and had continued regular ever since. In other cases of like nature, electricity had failed to do good. Dr. Playfair, in conclusion, declared that his clinical experience proved that electrolysis was an agent occasionally capable of doing much good. It might do much harm if injudiciously and unskilfully used, but that truth furnished no argument for rejecting electrolysis as a therapeutic agent, but rather demonstrated that the effects of the new method must be carefully studied, its indications noted, and its dangers detected and avoided.

DR. INGLIS PARSONS said that in the case of uterine fibroids the results of electrolysis would vary according to the position and structure of the tumor. He had found by experiment that electrolysis occurred only at the poles, and the free acids and alkalies resulting from it also acted locally. When fibrous tissue predominated, very little reduction in size was possible, even by puncture, whereas a soft myoma could be disintegrated by puncture. In one case he passed a small platinum needle, insulated to within one-quarter of an inch from the end, through the anterior vaginal wall and one inch into the substance of the tumor. The current only came off in the tumor, the vaginal wall remained intact: no sinus was left, as would have been the case had the actual cautery been used, but the puncture closed up at once, whilst at each sitting a large piece of the tumor was destroyed. By February last the tumor was reduced to one-third its original size, and had since remained unaltered. What was left appeared to be fibrous tissue. When the electrode could not be brought into contact with the tumor, it might check further growth, and thus prove of value in the earlier stages of uterine fibroid disease. Family physicians often let the disease advance; through dread of advising so serious a step as abdominal section, except as a last resource. Dr. Parsons believed that electrolysis would prove successful in hemorrhagic cases whenever the electrode could be made to touch the whole of the bleeding surface. He had sent out of hospital, a few weeks ago, a case where bleeding had been incessant for two years. After twelve applications it stopped and since then the patient had had two normal periods with only slight show.

DR. BANTOCK could not express himself in favor of electrolysis. There had been much assertion as to what this treatment was going to do, but little evidence of what it had done. Dr. Playfair's cases failed to convince him of the special advantages of the method. A year ago, Dr. Woodham Webb stated that while one of the electrodes was applied over the hypogastrium by means of a filthy mess of potter's clay, the other electrode was always applied within the uterine cavity. This practice was based on an alleged electrolytic action very beneficial for uterine fibroid disease. Dr. Bantock did not believe there was a tittle of evidence in support of the idea of electrolytic action extending between the poles. Apostoli himself and some of his followers had acknowledged the correctness of this opinion. Through the failure of the supposed electrolytic method, they had taken to the totally different practice of thrusting one of the electrodes into the substance of the tumor. This resembled Dr. Greenhalgh's way of treating fibroids by thrusting the actual cautery into their substance—a practice which had fallen into well-merited neglect on account of unfavorable results. Both methods sought to bring about the destruction

of the integrity of the tumor, it being supposed that, if once the degenerative process were started, it continued till the fibroid tumor entirely disappeared; leaving, contrary to Dr. Parson's statement, not a trace behind. The caustic action at the poles Dr. Bantock admitted, but he thought that this method offered no advantages over other practices in the treatment of those granulations on which uterine hemorrhage so often depended. The alleged diminution in the size of the tumor was due rather to a change in the condition of the uterus itself. Seven years ago, he removed the appendages of a patient subject to a uterine fibroid: three weeks later, the whole mass had diminished by nearly one half. Within two months, on the return of menstruation, it became as large as before operation, and three years later he had to perform supravaginal hysterectomy. It was the hypertrophied uterine walls which had diminished in size. The statement that, although the tumors became smaller after a course of electrolysis, they did not disappear was astonishing; after the removal of the appendages, if the tumor itself became smaller at all, the process went on to complete disappearance. Dr. Apostoli had insisted that a profound knowledge of gynecology was necessary for the successful application of his method. Dr. Bantock referred to two cases recently published by Dr. Apostoli, where it really appeared that there was a collection of fluid in the pelvis and the use of a trocar and canula would have finished the matter in five minutes, instead of several days. It was evident that Dr. Apostoli had no idea of the exact nature of the conditions in these two cases. Dr. Bantock did not oppose the method itself, but rather the exaggerated claims which had been set up for it. Nobody could be convinced either by the cases selected by Dr. Webb from Dr. Apostoli's records of five years' experience, nor by Dr. Playfair's cases. On moral grounds, Dr. Bantock opposed the manner in which this system of treatment by electricity had become the fashion of the day, only too apt to degenerate into quackery. When we heard of fifteen guineas charged for a first application, we felt that it had already assumed that character. Dr. Bantock here expressed regret that a Fellow took these remarks to himself. On reading the list of the various and opposite diseases for which the treatment was recommended, we were reminded of the vaunted virtues of patent medicines, such as Holloway's, Beecham's, Cockle's or Widow Welch's pills. Dr. Bantock concluded by saying that his mind was still open to conviction, and he was content to allow others to pursue the electrical treatment, provided it was done in a truly scientific spirit, free from that empiricism and imposture which at present characterized it.

Dr. ROTH compared the opposition to the electrical treatment of women's diseases to the similar opposition to the sound and to ovariectomy in past days. Only those who had some experience of the method could judge of its merits. He believed that it was efficient in many cases. Thus the negative pole caused dilatation of the contracted passages, as in stenosis of the uterine canal; the extent of its dilating power in this respect had not been sufficiently dwelt upon. In one extreme case, he could introduce two or three fingers into the uterine cavity after employing electricity. Hoping to dilate the cavity further he gave ergot, when, to his surprise, he found it closed. Errors of diagnosis had discredited electricity, as in one case of a tumor impacted in the pelvis. Dr. Bantock had exhibited elsewhere a uterus removed for fibroid disease. In its



cavity were found a number of small tumors. The case recovered, but had the uterus been first dilated and the tumors removed one by one, the patient would have retained her sexual organs. In 1872, Dr. Routh cured two cases of large fibroid tumor by the electrical cautery, but the wounds made by the electrical agents then in use proved very troublesome to heal. This disadvantage was overcome by Dr. Apostoli's appliances. Dr. Routh stated that clinical experience showed the necessity of antiseptic injections after the application of electricity to fibroids, especially when rise of temperature occurred. The electric wire allowed the operator to limit the application of his remedy both as to place and time, with great exactness. This was a great advantage, especially in fundal endometritis accompanied with discharge of tenacious mucus or pus. An ordinary caustic could not be applied with the same precision. Lastly, though hysterectomy was often justifiable, we must not forget that it unsexed a woman—a serious effect indeed, so that if electricity could also cure a fibroid, it would be far preferable to a mutilating operation.

DR. CHAMPNEYS considered that discussion on the subject, especially as to permanency of success, was premature. Those who disbelieved in the method were not necessarily either ignorant, prejudiced, or even inexperienced; those who did not publish their successes might be perfectly capable of forming a judgment. He had given the method a trial, but did not consider that the time had arrived for the publication of his results. As to the assertion of Dr. Playfair that rest had nothing to do with the cure of his cases of fibroids, the hospital patients being kept out of bed, it must be remembered that, for a poor woman, a residence in hospital was truly rest, even if she did not keep to her bed. Fibroids, again, were liable to extraordinary spontaneous variations in size: this must be remembered in cases where the tumor became markedly smaller after electrolysis, cause and effect might be confounded. In short, Dr. Champneys was not convinced by any of the cases reported in the papers under discussion. In Dr. Shaw's communication, something like scientific facts were to be found, but the double electro-puncture, as carried out in his experiments, did not necessarily illustrate what happened in ordinary clinical cases. Finally, Dr. Champneys had heard of wide-spread suppuration, of septicemia, and death, after the employment of this method, and regretted that these cases had not been reported.

DR. GALABIN wished to know if electrolysis, and consequent absorption, of the cells of the tissues or tumor took place midway between the positive and negative poles or only at the poles. He criticised the former opinion very strongly, on physical grounds, and was inclined to believe that the effects of electric treatment, in cases of fibroid, were due to caustic action. Dr. Galabin regretted that so little satisfactory evidence on the treatment of fibroids had been brought forward. As a caustic, electricity was valuable when the interior of the uterus required treatment and the cervix was narrow; in other respects it was hardly superior to other caustic agents.

DR. HEYWOOD SMITH was averse to allowing prejudice and inexperience to shelve the electrical question, but at the same time he thought that the present discussion would be fruitless. The natural fluctuations in the size of fibroids must be more accurately studied. He believed that electrolysis was of value in promoting the absorption of inflammatory deposits in the pelvis, after the



stage of active inflammation had passed away, as Dr. Parsons had already demonstrated. The method should be systematically tried in intractable cases of obscure ovarian pain. A good handbook, indicating the right line of investigation, as well as the use of instruments, was much needed.

THE PRESIDENT did not object to Dr. Playfair's claim that electricity should be placed on its trial. It had been already tried in the treatment of women's diseases for some time. The literature of the subject was not inconsiderable, but it was very disappointing, for it mainly consisted in the description of instruments and the mode of using them. Dr. Apostoli, in particular, had published little else, except a series of general assertions and sweeping statements. Now, in estimating the value of the published work of an author not personally known to the reader, and whose powers of observation could not be tested personally, the reader should be acquainted with more than one of that author's published writings. He should know the author's record, for one work might throw much light upon the value of another. In 1881, Dr. Apostoli read, before the International Medical Congress, a paper wherein he proposed to treat the uterus during the lying-in period by faradization, with a view to prevent subinvolution, metritis, and other evils. The Fellows of the Society might form every one his own estimate of that proposal. In a later work by Dr. Apostoli, on chronic metritis and its treatment by electricity, there was much about instruments and many sweeping assertions, but not a single case in support of the latter. Dr. Steavenson's paper was not free from similar statements. He said that the contracted cervix could be dilated by electricity with results more permanent than after dilatation by other means. We had, however, no data which made it possible to form any valid conclusion on the permanency of the effects of tents, bougies, etc. How, again, could Dr. Steavenson justify his assertion that electricity cured the stenosis of the cervical canal caused by amputation of the cervix by the galvano-cautery? The President severely criticised the statements of Dr. Carlet, a pupil of Dr. Apostoli, in a work on the treatment of fibroids by electricity after the methods of his master. Dr. Carlet declared that small interstitial fibroid tumors were often regarded as chronic metritis; engorgement of the uterus, ulceration of the neck, ante flexion, anteversion, and especially retroflexion and retroversion. Such was the dominant idea in Dr. Carlet's work, as revealed by the ninety-four cases which he described. Fifty-nine were treated by positive galvano-caustic. In four cases only did the canal of the uterus measure over four inches, the greatest length being five and one-half inches. In twenty-five it measured less than three inches! Together with the slight elongation of the canal, there was enlargement and induration of the uterus, with hemorrhage. The President was not ashamed of the ignorance which regarded these cases, with two or three exceptions, as cases of subinvolution or chronic metritis. These cases were treated for hemorrhage for periods varying from two months to a year; yet in none did the diminution in the length of the canal exceed 1.5 centimetres. They could have been effectually treated in a shorter time by other means. The President then showed that the evidence in respect to twenty-one out of the ninety-four cases treated by negative galvano-caustic was equally unsatisfactory. Five cases were treated by puncture, mostly large fibroids, but in only one could

Dr. Apostoli introduce the sound. The canal measured fifteen centimetres before and eleven and one-half after treatment. This was a diminution of three and one-half centimetres, a little less than an inch and one-half, a decrease known to occur as a part of the cyclical changes of fibroids. In conclusion, in a similar manner was the record of nine cases treated by positive and negative galvano-caustic. In none out of all these cases did any alteration in size take place, which might not be presented by fibroids when not treated at all. The method had thus been put to the test by its founder, and with very unsatisfactory results. There might be a place for the employment of electricity in the treatment of diseases of women, but as yet no case had been made out for it.

DR. STEAVENSON felt some difficulty in replying to all the questions included in the discussion. He hoped that it would be remembered that he wrote his paper more than a year ago; the method had since undergone modifications. He had not admitted that the electrolytic action of electricity was limited to its cauterizing properties; but advocated a more extensive use of electrolysis in those diseases of women where caustics were most usually employed. The apparatus was cumbersome, and its management difficult, so that the new method was not likely to supplant others; but to those who could manage the apparatus, electrolysis would prove, as Dr. Horrocks had said elsewhere, a more efficient and elegant way of applying caustic than any other that we possessed. In reply to Dr. Bantock, he maintained that this caustic action was true electrolytic action. Electrolysis certainly took place at the poles, and though this important point was not settled, Dr. Steavenson believed that it also went on in the tissue between the poles, as, for example, in the substance of a tumor. The science of electricity favored this view, especially when the electric affinities of animal tissues were considered, and Dr. Parsons' scientific experiments were of high value in this respect. Turning to the treatment of erosions and catarrh, he brought forward evidence to prove that electrolysis, instead of being a longer, was really a shorter method of cure than any other, for it was a better local remedy than any caustic. Some of his cases certainly required three or four months' treatment by electrolysis, but they had mostly undergone, without benefit, prolonged application of mineral caustic, in some instances for one or two years. Urethral caruncle was best treated by a galvano-cautery with cauterization of the raw surface left after removal of the growth. Turning to Dr. Playfair's remarks, Dr. Steavenson said that gynecologists should not attempt this treatment without some knowledge of electricity, nor electricians without some knowledge of gynecology. Dr. Playfair had urged that cases suitable for treatment could only be selected by men who had a superior knowledge of diseases of women. Dr. Steavenson had enjoyed that privilege at St. Bartholomew's Hospital. In reply to the President, he thought it premature to say that the enlargement of the cervical canal for dysmenorrhœa produced by electrolysis was more permanent than when it was effected by mechanical dilatation or by incisions, but the President admitted that some contraction occurred at once after the canal had been stretched to a large size by dilatation. Dr. Steavenson declared that the case was different after electrolysis; there was no immediate contraction, and certainly none for a month or six weeks; but for how long the enlargement of the canal was maintained he had not sufficient expe-

rience to prove. As to the taunt, that, if cicatricial tissue out of sight in the pelvic cavity could be made to disappear by electrolysis, cicatricial tissue on the surface of the body might be and ought to be removed by the same method—though the advocates of electrolysis shirked that test, Dr. Steavenson said that, on the contrary, he had tried electrolysis, with success, on cicatrices at the meatus of the urethra, and on the brawny tissue around old perineal and scrotal fistulæ. The dense tissue visibly softened down.

DR. GIBBONS admitted that some of his cases might have been cured by other means, but maintained that the results seemed more satisfactory, and where he could trace the history the patients seemed more thoroughly cured by electrolysis than by other methods. The caruncle case criticised by Dr. Herman required two applications for a special reason, which he explained. He further admitted that the method was very unsuitable for private and general practice, yet with all its present disadvantages, it was a means of treatment well worthy of prolonged trial by those who have patience and material at their disposal. He admitted again that, as Dr. Playfair had insisted, clinical facts must be sought and recorded; yet already he had known of great temporary benefit from electrolysis in a case of bleeding fibroid. Dr. Bantock was clearly prejudiced against electrolysis. Dr. Gibbons, while insisting that electrolysis as a means of curing fibroids deserved more trial, and would be better, if successful, than oöphorectomy or hysterectomy, wished it to be remembered that the method gave promise in other directions, as his own paper demonstrated. Electrolysis should be carefully applied in obstinate, intractable affections like chronic metritis, and not rejected until wide experience had proved it to be unworthy of support.

DR. SHAW believed that an increase of arterial tension really took place, and continued after the application of the current, and had no doubt that what was understood by electrolysis really took place, for at the positive and negative poles, together with acids and alkaline bases respectively, there were acid and alkali albumins. Some of the cases of failure were due to local irritation, the result of a too early or too vigorous use of the hemostatic action of the positive pole; a preliminary or occasional resort to the derivative action of the negative pole appeared advisable. The negative pole acted, he believed, in a twofold manner on a stricture or a closed cervix. Firstly, it caused the swelling up of capillary granulations; secondly, it exercised a directly solvent action on the fibrous tissue. Dr. Shaw had satisfied himself, by a series of experiments, a description of which was appended to his paper, that electrolysis went on between, as well as at, the poles.

---

Wednesday, July 4th, 1888.

JOHN WILLIAMS, M.D., *President, in the Chair.*

*Specimens.*—DR. J. PHILLIPS showed a living infant, eleven days old, with a malignant tumor on the forehead.

DR. W. S. A. GRIFFITH exhibited a microscopical section of fibroma and myoma of the uterus and ovary.

*The placenta in extra-uterine gestation.* A report was read on the microscopic appearances of portions of suspected placental tis-

sue, from the specimens exhibited by Drs. Aust-Lawrence and Penrose at the meeting of the Society on March 17th.

THE CONDITIONS WHICH FAVOR MERCURIALISM IN LYING-IN WOMEN,  
WITH SUGGESTIONS FOR ITS PREVENTION.

By ROBERT BOXALL, M.D., M.R.C.P.—The question is debated under two separate headings: (1) increased absorption, (2) defective elimination.

*Under the first head:*

The site of absorption is discussed; the question whether the solution obtains entrance to the cavity of the uterus when the uterine tube has not been employed is debated, and an experimental investigation undertaken with a view to determine the point is related.

It is suggested that absorption not infrequently occurs inside the uterus, even when the uterine tube has not been employed, but that it may also take place through the lacerated surfaces of the cervix, vagina, and perineum, or even through the intact mucous membrane. Reference is made to the experimental research conducted by MM. Doléris and L. Butte which bears on this point.

With a view to diminish the risk of absorption, it is suggested:

1. That not only should care be exercised to obtain contraction of the uterus, but that it should be also carefully maintained, and, above all, that the douche should always be given at such a temperature as will stimulate the uterus to action.

2. That the douche should invariably be administered in the supine position, the uterus at the same time being supervised by one hand placed on the abdomen.

3. That, when the administration is completed, the precaution should invariably be taken of ascertaining that the uterus is contracted by palpating the abdomen, and, if distended, the fundus should be squeezed like a sponge in the palm of the hand, and at the same time should be depressed with the object of evacuating the vagina.

4. That the surface of lacerations about the external orifice should be brought together, and any abrasions which remain should be coated with some material impervious to the solution.

*Under the second head:*

The relative eliminative power of the different excretory organs is discussed, and especial attention is directed to the condition of the kidneys and intestine.

The following suggestions are offered:

1. That chronic nephritis, and probably also those changes which occur in the kidneys during pregnancy, may, by diminished elimination, produce an accumulation in the system.

2. That the intestine possesses an equal if not a greater eliminating power than the kidneys.

With a view to obviate the risks arising from defective elimination:

1. That, when the kidneys are affected, the sublimate douche should not be employed, or, if used, extreme caution should be exercised.

2. That a free watery flow should be promoted by the kidneys, and that especial care should be directed to this point in hot weather.

3. That the bowels should be evacuated daily, either by salines or by the administration of such agents as produce copious and loose stools.

A tabulated series of eleven cases which presented symptoms of slight mercurialism is appended.<sup>1</sup> A fatal case of mercurialism is also narrated.

DR. MATTHEWS DUNCAN called attention to the easy distention of the puerperal uterus by injections, even long after delivery. Distention shortly after the birth of the child, as in post-partum hemorrhage, was better known. Dr. Boxall had apparently overlooked a mode of conveyance, otherwise than by absorption, into the circulation. This was easily understood after delivery, when there were open sinuses at the placental site; but it might take place in the unimpregnated uterus, as Dr. Duncan had shown in a case of injection of a solution of perchloride of iron. The sudden deaths on injection of this agent were to be explained only in this way. The fluid entered in bulk, not by absorption.

DR. ROUTH considered that Dr. Boxall's paper was admirable. Nevertheless he thought that the routine practice of sublimate injections was carried too far. In one of the recorded cases, the redness of the gums on the third day might not have been caused by the sublimate; but the mercurial symptoms came on by the sixth day. This proved that they were due to the prolonged use of the sublimate injections. The strength of the solution was reduced to 1 in 4,000 after the third day. This practice, however, might cause the evil it was designed to avert, for a weak solution could be readily absorbed; a stronger preparation would coagulate the albumin and thus stop the mouths of the absorbing vessels, preventing the entrance of septic substances from without. The cases where he had seen nephritis and albuminuria following this absorption were precisely those where weak solutions had been employed. Dr. Routh recorded the case of a patient who, in consequence of pendulous abdomen, had gone one month beyond the usual term of gestation. Septicemic symptoms occurred at the end of every week for four consecutive weeks; iodine injections always removed the serious symptoms, but as they recurred so often, he used a corrosive sublimate injection, one grain in two ounces of water, at the end of the fifth week. A considerable quantity of albuminous flakes came away, and the patient made a perfect recovery. In ordinary cases, Dr. Routh preferred iodine vaginal injections (thirty drops of the tincture to half a pint of warm water), the water being as hot as the patient could bear, whenever there was any smell. He believed that the hot water alone coagulated the albumin and destroyed germs. Only when there were feverish symptoms, threatening septicemia, was it necessary to inject the uterus; a strong solution of the perchloride, one part

<sup>1</sup> Omitted, Ed.



in nine hundred and sixty at least, should then be used. Dr. Routh thought that the volatility of iodine was an advantage. It could penetrate tissues where sublimate could not enter. He noted what was seen in a necropsy or a case already recorded by Dr. Grigg where septic symptoms had recurred and sublimate injections had been used. The mercury had only acted on two-thirds of the uterine cavity, which was white and sweet. The upper third was in a gangrenous condition. Iodine would have reached every part of the uterus.

DR. SAMUEL SLOAN (Glasgow) favored the abolition of the routine practice of vaginal injections in natural cases. He had discontinued routine injections, both in private and in hospital practice, for some years and since then his results were better than before. He could not say whether this signified that injections interfered with natural processes or that it was difficult to keep the tubes, etc., used in routine injections absolutely clean. When any cause for suspecting sapremia or septicemia arose, he then used mercurial injections, but in private practice this was an extremely rare event. In such cases, however, mercurialism was most unlikely to occur; because the need for the drug would diminish its activity. Dr. Sloan did not advise the discontinuance of antiseptics in hospital practice, but he objected to the routine use of injections even there. In private midwifery practice he had to a large extent given up antiseptics, for he believed that women could be kept aseptic by absolute cleanliness, healthy surroundings, and skilful management during pregnancy, labor, and the puerperium; their resisting power being at its maximum, and the tendency to decomposition at the minimum, the lochia did not naturally decompose. When mercurial injections were skilfully given, ballooning of the uterus would not take place. The organ must be firmly grasped by the hand *during* the process of injection, and by pressing back the perineum whilst the woman coughed, retention in the vagina was avoided, especially if the patient were placed in the semi-supine position.

DR. CHAMPNEYS thought that the days were past in which a speaker who talked about "antiseptics in midwifery not being necessary" would find supporters in the Society. There was some difference of opinion as to routine injections, but before discussing the subject he referred to Dr. Sloan's insinuation that Dr. Boxall's cases had not been carefully treated. Sepsis had for some years been entirely abolished at the general lying-in hospital. Dr. Sloan did not appear to have been so successful in his own practice at Glasgow. Dr. Champneys thought it strange that Dr. Boxall had been accused of want of care by a gentleman who attributed his own results to "dirty enemas." Routine use of vaginal douches might not be absolutely necessary, in private at least; they were far less important than antiseptic cleanliness of the hands. Still Dr. Champneys had used routine douches for years and years, and was more satisfied than ever with them; they proved beneficial in several ways. The material to be used for the injections was open to debate. In ordinary cases he did not use sublimate, on account of the risk of mercurialism, and a weak antiseptic, such as iodine, would probably suffice, except in special cases, at an institution like the General Lying-in Hospital, where the midwives and nurses so thoroughly understand the antiseptic system. Dr. Champneys did not see how the semi-prone position could be the best when vaginal injections were employed. It was highly in-



convenient, the bed would be with difficulty kept dry, and gravitation of the injection into the uterus and subsequent absorption would be favored rather than prevented. He regretted to hear about the "germ-resisting power" of a woman. In the old days before antiseptics, young, healthy women succumbed in large numbers to puerperal fever.

DR. HERMAN had noted, in his own experience, a frequency of mercurialism nearly the same as in Dr. Boxall's series of cases. Assuming idiosyncrasy was the reason of the mercurialism, it appears that this idiosyncrasy was present in about five per cent of all cases. Dr. Herman could not trace any connection between weather and the occurrence of mercurialism. He had seen a temporary trace of albumin in the urine in only two out of the eleven cases of mercurialism in his own hospital practice (referring to one hundred and eighty-two patients admitted into the General Lying-in Hospital in the first half of 1886; in two out of the eleven cases, it was not certain that the symptoms were really due to mercury). In two cases of Bright's disease during pregnancy, sublimate douches, administered as in all the other hospital patients, had caused no symptoms of poisoning. Anemic patients were not specially prone to mercurialism. Altogether perchloride of mercury was the best antiseptic in hospital practice. It was not so safe in private cases, excepting under two conditions. The nurse who gave the douche should know the dangers of ballooning of the vagina and how to prevent it; secondly, the obstetrician should attend the case at least daily, so that he might perceive the first symptoms of mercurialism. When he ceased his daily visits, the use of sublimate should be left off. "Germ-resisting power" should not be trusted. He could not offer information as to the effect of sublimate douches in septicemia, for during the two and a half years he had been attached to that institution, there had been no case of that grave complication.

DR. CULLINGWORTH laid greater stress on cleanliness of hands, instruments, sponges, and everything brought into contact with the genital tract, than to uterine and vaginal injections. It was questionable whether germicide solutions should be introduced into the body of the patient. It was not the organisms already there, but those which might be introduced from without which were to be feared. To prevent the ingress of the latter was the object of antiseptic midwifery; this object was obtained by efficient disinfection of the hands, instruments, etc., by processes which did not involve any danger of mercurialism. The antiseptic method must not be made too complicated, else practitioners could not adopt it. Warm vaginal injections were both soothing and useful; they, above all, promoted cleanliness, which could be obtained by harmless ingredients as easily as by poisons like sublimate. Even in cases of sapremia, where at least one thorough intra-uterine injection was of value, milder chemical agents than sublimate were probably sufficient. Chemical products of decomposition apparently caused the harm in these cases, as the symptoms disappeared as soon as the uterus was emptied. When septicemic symptoms had developed, it was useless to employ sublimate, for no douche could reach germs which had already entered the circulation.

DR. LEITH NAPIER thought that, in private practice, a hot saturated solution of boracic acid was best for douches. In hospitals, sublimate solutions were suitable, but they should be very dilute.

Strong preparations coagulated albumin; it seemed better to employ a solution which, by absorption, might act generally as well as locally. He thought that mercury was eliminated not only by the intestine (where the unabsorbed portion was found as an insoluble sulphide), but by all the secretions.

DR. ROUTH here observed that during convalescence he almost invariably employed iodine or Condy's fluid for vaginal injections, and that, as to the good effect of the mercurial solution (which Dr. Cullingworth doubted) in the septic case, "the proof of the pudding was in the eating," as complete cure occurred.

DR. LEWERS said that, during the year 1887, nine hundred and sixty-two women had been delivered in Queen Charlotte's Lying-in Hospital, with only two deaths.

DR. BOXALL then replied. He thought that the direct passage of sublimate into the system was quite exceptional, and occurred when other antiseptics were used. In the rules for the administration of the douche, included in his paper, he had made allowance for ballooning of the vagina and uterus. The coagulating action of sublimate did not necessarily imply that its antiseptic influence was strictly local, still less that absorption of mercury was prevented. The coagulation at first formed was soluble in excess of albumin. Sublimate brought into contact with albumin was at first precipitated, and mercury in considerable quantity might thus be retained within the passages. But the action of the albumin of the blood and tissues dissolved the coagulum, which was then liable to be absorbed. The primary precipitation of the mercury tended to retention (hence a further reason, were any needed, for complete evacuation of the uterus), whereas the faculty for being redissolved might ultimately result in a large influx into the tissues. Whether the solution of albuminate in excess of albumin was itself a reliable antiseptic required elucidation. In conclusion, Dr. Boxall insisted on the superiority of perchloride of mercury over iodine and other antiseptic agents.

## TRANSACTIONS OF THE SECOND MEETING OF THE GERMAN GYNE- COLOGICAL ASSOCIATION.

---

HELD AT HALLE, MAY 24TH, 25TH, AND 26TH, 1888.

---

(From the *Centralblatt für Gynäkologie*.)

---

The President, KALTENBACH, of Leipsic, opened the Congress. After he had cordially welcomed those present, and alluded to the passing away of the Emperor William, he called attention to the gratifying progress made by the Society, and emphasized the necessity for a combined cultivation of obstetrics and gynecology.

The first paper was read by DUEHRSEN (Berlin) on

THE INTERCHANGE OF MATTER BETWEEN MOTHER AND FETUS.

D., following Gusserow, gave parturient women benzoic acid, and found it, as had Gusserow, as hippuric acid in the urine of the child, and in the amniotic fluid. While, however, Gusserow's experiments admit the possibility of the hippuric acid, as such, having passed over to the fetus, D. could exclude this, as he had found only benzoic acid in the placenta of six cases. Consequently the hippuric acid, the presence of which D. demonstrated in the fetal urine of three of these cases, could have been formed of benzoic acid only in the kidneys of the fetus. That the benzoic acid is not transuded directly from the decidual vessels into the amniotic fluid, is shown by the circumstances that neither D. nor Gusserow had ever found benzoic acid in the amniotic fluid, while both found hippuric acid in this liquid four times. The experiments of D. had, therefore, confirmed the conclusion of Gusserow, that at the end of gestation the fetal kidneys performed functions similar to those of the adult, that they convert benzoic into hippuric acid, and that they produce urine which is voided from time to time into the amniotic fluid, prior to the rupture of the membranes. That the fetal kidneys functionate as early as the second half of pregnancy, is shown by the fact that D., in two cases of pregnancy in the fourth and eighth month respectively, likewise found no benzoic acid in the amniotic fluid. The absence of benzoic acid in the amniotic fluid also renders untenable the hypothesis of Fehling, according to which the amniotic fluid is in part a transudation from the vessels of the umbilical cord. D., consequently, has given the world the first positive evidence that at the end of pregnancy the nourishment of the fetus takes place exclusively through the medium of the placenta, and that at the end of pregnancy the amniotic fluid is an excretion of the fetus.

WIENER (Breslau) corroborated the views of the previous speaker.

AHLFELD (Marburg) did not consider the amniotic fluid as an essential aliment; but since it contains albumin, the fetus might take it up by intra-uterine deglutition.

DR. FEHLING (Basle).—The author proves only, what he himself does not doubt, that the fetus secretes; but he does not show how much, nor does he prove that the amniotic fluid contains only fluids of excretion. Whence comes the oft enormous quantity of albumin in the amniotic fluid?

DUEHRSEN cannot admit that the liquor amnii represents a transudation from the maternal vessels. The proof of this, which is necessary for his theory, has not yet been furnished by Ahlfeld. Sanger's continual administration of benzoic acid during pregnancy, after Fehling's method, leads to no result, as the hippuric acid disappears again very rapidly from the fetal urine and the amniotic fluid. The presence of albumin in the amniotic fluid may date from the first half of pregnancy and be furnished by Jungbluth's vessels.

WINCKEL (Munich), in his paper,

HOW TO EXPEDITE THE DELIVERY OF THE AFTER-COMING HEAD,

discusses the twenty-one methods serviceable for this purpose. Finally he treats at some length of the following method, first employed by Wiegand (1800), more recently by Champétier de Ribes, A. Martin, and the author. Immediately after freeing the second arm, two fingers of the hand corresponding to the face are inserted deeply into the child's mouth, while the other hand lifts the trunk lightly aside; by pressure upon the root of the tongue the chin is depressed as far as possible, so that it almost touches the neck; then the trunk of the child is laid on the forearm corresponding to the hand the fingers of which are in the child's mouth. It is not the office of the hand to make traction, but only to direct the exit of the head by means of the descending chin. By the flexion of the chin, the occiput is considerably elevated in the uterus, and it can be grasped much more easily through the latter by the free hand, which then presses the head, rotating it around its transverse diameter from the occiput towards the side of the face, through the contracted pelvic inlet; whereby, if there be great pelvic inclination, an easy rotation around the sagittal suture of the skull is at the same time accomplished. As soon as the skull is squeezed into the lesser pelvis—which is often effected with astonishing ease—the face of the child is turned backwards, and the trunk slowly lifted over the abdomen of the parturient, while pressure is kept up by the external hand. Special support of the perineum is not required. This very gentle manipulation, which W. had caused to be used in twenty cases, is not suitable where the abdominal walls are very fat, and where inflammatory conditions or lacerations of the uterus or vagina are present.

OLSHAUSEN (Berlin) believed that the simple engagement of the head is not sufficient, because the pelves are usually flat in the cases where we operate.

SCHULTZE (Jena), who does not draw down the head by the chin, but by the forehead with the whole hand, was of the same opinion.

A. MARTIN (Berlin) agreed with W., but counselled against the manipulation of Schultze, as time is lost by it.

BREISKY (Vienna) desired that two points be borne in mind: 1. Pressure on the after-coming head can be exerted advantageously and without danger only in the contracting, not in the paralyzed, portion of the parturient canal. 2. As the fingers inserted in the mouth of the child can readily produce infection of this region, either the chin or the upper maxilla should be drawn upon.

VEIT (Berlin) feared also rupture of the uterus.

WINCKEL, in closing the discussion, remarked that traction does not come into play, and that the external force is very slight.

DOHRN (Königsberg) read a paper on

THE QUESTION OF THE TREATMENT OF THE THIRD STAGE OF LABOR, Illustrated by diagrams. After D. had stated that he to-day held essentially the same views he had expressed as early as 1880, he pointed out the advantage of Credé's method, but predicted a great future for the expectant plan. On Plate I. he demonstrated the Lemser-Schultze mode of separating the placenta; the retro-placental hemorrhage, which at the same time acts as a tampon and assists the propulsion of the placenta, he estimates, as a result of five hundred observations, at an average of three hundred and five grammes. D. considers this method as the more frequent in the ratio of four to one. Plate II. delineates the method of Duncan, in which the placenta emerges by its margin. Plate III. represents the old method (traction on the cord). Plate IV. shows Credé's method correctly employed. Plate V., the same, incorrectly used.

In connection with this subject, DR. FEHLING (Basle) spoke of

#### THE MECHANISM OF PLACENTAL SEPARATION.

While in Germany Schultze's views had found the most adherents, gynecologists in America advocated those of Duncan. Of eighty-one cases, F. observed in fifty-seven Duncan's, in five Schultze's, and in nineteen the mixed mode of separation. He considers the mode of Duncan the usual one; that of Schultze occurs mainly through traction upon the cord. The retro-placental effusion of blood can have no influence on the detachment of the placenta; it can at most take place only after the first pain, of which fact he had convinced himself by experiments under chloroform. The bleeding is arrested by thrombi resulting from the retro-placental hemorrhage.

In the discussion of the last two papers, the following gentlemen participated:

SCHATZ (Rostock).—In practice the expectant plan was not possible; the loss of blood is considerable.

WINCKEL observed in one hundred cases seventy-nine where Schultze's mode of separation occurred; he, too, employs the expectant plan, but expresses the placenta after two hours; hemorrhage is always present.

LAHS is in favor of the modified Credé procedure, and considers Duncan's the more frequent mode of separation.

AHLFELD saw no hemorrhage before the expulsion of the placenta in forty per cent of the cases; the loss of blood in the first hours amounted, on the average, to four hundred and ninety-five grammes. Secondary hemorrhage did not occur. In the last five or six years he had not found it necessary to use any styptics in his procedure; at most, here and there massage was required. The expectant plan is not applicable where hemorrhage is present. The placenta had to be manually separated in but 0.3–0.4 per cent of the cases; with Credé's method in seven per cent.

In closing the discussion, DOHRN remarked that the first detach-



ment of the placenta was caused by contractions, after which the effusion of blood comes into play. Among one thousand cases, he resorted to Credé's method only when the need was urgent, otherwise he followed the expectant plan, like Winckel.

WERTH (Kiel) spoke on

THE ORIGIN OF PSYCHOSES FOLLOWING OPERATIONS UPON THE  
FEMALE GENITAL APPARATUS.

He had observed altogether six cases of psychoses—two after thirty-two total extirpations, two after one hundred and sixty ovariectomies, and two after thirty-six castrations. In five cases they took the form of melancholia, in one that of active melancholia. The affection occurred in two cases, respectively, on the fifth and eighth day after operation; in two, after two to three weeks; in two, after discharge from the institution. Three recovered, one on the fifteenth day, one after four months, and one at the end of from six to eight months; two were not relieved; one committed suicide three and one-half months after the operation. Three were hereditarily tainted; three had passed the menopause (one total extirpation and two ovariectomies). He cannot ascribe the cases to iodoform intoxication; in one case he had used no iodoform at all; in three only very small quantities; in two, a larger amount. Landau's explanation, according to which these psychoses were functional disturbances (phenomena of interruption) produced by mutilation of the sexual organs, W. could not accept, as three of his cases were of an age which excluded any kind of genital function. In two cases he is inclined to refer the psychoses back to psychological causes; one resulted in connection with irrigation of the bladder, while in another the woman had passed through a psychical emotion previous to the operation.

DR. SAENGER (Leipsic).—The psychosis is already latent in most cases; the operation only constitutes the irritant that causes it to manifest itself. The treatment of the original malady should in no wise be altered because of the psychosis.

MARTIN likewise does not attribute a particular rôle to gynecological operations in the production of cerebral disturbances, as psychoses had been observed after other surgical procedures; possibly caution should be observed in operating upon women psychically diseased.

AHLFELD agreed with Martin.

FROMMEL (Berlin) had seen two similar cases; the one was a notorious drunkard, the other had to be removed to an insane asylum six weeks after the operation.

SCHWARTZ (Halle) spoke on

THE THERAPEUTICS OF EXTRA-UTERINE PREGNANCY,

and arrayed himself in favor of operative treatment. If the bleeding occurs beneath the peritoneum, that is, is encapsulated, the expectant plan is admissible; but should improvement fail to take place, resort must be had to operation. Where hemorrhage into



the abdominal cavity ensues, and the tumor thus formed is palpable through the abdominal walls, he resorts at once to operation.

WINCKEL stated that he had injected solutions of morphine into the tumor in seven cases of tubal pregnancy, five times with success. In one case he caused two fetuses, one in either tube, to shrivel in the course of two years; the autopsy obtained later disclosed a calcified fetus in each tube.

VEIT did not believe that any one would so readily make up his mind to use injections when in doubt. He had operated in seven uncomplicated cases with the best success; in addition, three times on moribund subjects; one he lost by sepsis, one probably by absorption of blood; the third case recovered in spite of three successive hemorrhages. In advanced stages of pregnancy he operated on principle; he remained expectant only where the fetus was dead.

WIEDOW (Freiburg i. B.) spoke in favor of the expectant plan, as he found it hardly possible to check secondary hemorrhage in ten cases.

MARTIN considered Winckel's method very risky, because of the danger to the intestines. In uncomplicated cases he performed laparotomy.

LOEHLEIN (Berlin) expressed the same views.

DR. ZIEGENSPECK advocated Winckel's method; in one case he punctured the intestines ten times without deleterious result.

SCHWARTZ said Winckel's method encouraged him in his own plan of treatment, because patients never were cured by the former, and because the ovisac is not accessible through the abdominal walls in the early weeks.

SAENGER (Leipsic) presented five women upon whom

#### TAIT'S FLAP PERINEORRHAPHY

had been performed, in one case in connection with trachelorrhaphy, in four as the last step in the operation for prolapsus; prompt recovery in all cases.

He also showed two cases of simple

#### ABDOMINAL FIXATION OF THE RETROFLEXED UTERUS,

one of which was described as No. 7 in *Centralblatt für Gynäkologie*, No. 3, 1888. Complete, permanent recovery. The second case was operated upon at the end of February, for exaggerated retroflexion of the uterus with severe symptoms. The uterus rests against the anterior abdominal wall, but still presents evidences of retroversion of the fundus. He also related another case, communicated in writing by E. Fränkel (Breslau), in which violent symptoms of retroflexion were cured by ventral fixation.

OLSHAUSEN (Berlin) presented a case of

#### ABDOMINAL FIXATION OF THE RETROFLEXED UTERUS,

also two women upon whom he had performed total vaginal extirpation of the uterus for carcinoma, seven and five years ago, respectively, in all of whom no relapse appeared; he called to mind, in this connection, two more cases which had remained free

from relapse for six years. He called attention to the fact that the time-limit for the occurrence of a relapse must not be made short; one year, as Martin declares, is too short a period; it should be at least two years in duration, as O. observed a relapse occurring three and one-half years after the operation. In the case of a multipara suffering from osteomalacia, symptoms of incarceration manifested themselves in the third month of pregnancy; efforts at reposition were fruitless, two repeated tappings yielded no fluid, so that O. was compelled to perform total extirpation per vaginam; the woman recovered.

MARTIN (Berlin), in his paper on

#### MYOMATA,

reported the results of the examination of 205 myomata of the corpus uteri removed by operation. Fatty degeneration, 7; 3 of them in the stage of calcification; suppurative processes, 10; these tumors were, for the most part, submucous, or intra-mural myomata with a submucous seat, but which had entered the cavity of the uterus by the erosion of the mucous membrane; edema in the growths (phenomenon of stasis), 11, in women reduced by loss of blood; cystic myomata, 8; telangiectasis, 3; sarcomatous transformation, 6; fibroid sarcoma, pediculated and without capsule, 2; incapsulated intra-parietal growths, 4; 2 of these cases died of relapse, seven and four months, respectively, after the operation; complication with carcinoma, 9 times (cervical carcinoma, 7; corpus carcinoma, 2).

ZWEIFEL (Leipsic) read a paper on the

#### TREATMENT OF THE PEDICLE IN MYOMOTOMY.

After considering the two (extra- and intra-peritoneal) modes of treatment, and speaking against the use of dropped rubber ligatures (Olshausen), he proceeded to the discussion of his method, which he at first—as he had already explained at Salzburg—carried out by ligating the pedicle in four parts, and sewing it over with a covering suture. Since then he had improved his method by using Bruns' stem-needles; the broad ligaments are pierced with these in various places, and threads attached, the ends of which are held in the jaws of a clamp; after all the threads have been inserted, they are simply tied from both sides, excepting the last one, and the ligament cut through up to the last thread. The rubber tube is then applied, the terminal folds inclosed in it and drawn taut; after this, the stump is cut off transversely and sutured; it is thoroughly trimmed, a quilted suture inserted, and dropped. Of the twenty-three myomotomies, he employed the uninterrupted tier suture in nine; the last cases recovering without any disturbance.

In connection with this subject, FRITSCH (Breslau) spoke of

#### MYOMOTOMY.

His first myotomies he had performed according to Olshausen, the elastic ligature being dropped; contrary to Zweifel's experience, however, he had never seen necrosis follow. At a later period, he confined himself to the Schroeder-Hofmeier method, from the principles of which Zweifel does not depart in any essential particular, but discarded as superfluous, after a single trial, the use of the tier suture. Being unable to obtain favorable results by this method (of thirty-nine, he lost twelve cases), and as Hegar's operation appeared inapplicable because of necrosis of the stump, he treated the pedicle after Wölfler, Hacker, and Sängner, with the following modification: After the uterus is rolled forward, the upper angle of the wound is closed (to prevent escape of the intestines); the broad ligaments are then tied with Deschamps' needles, and the elastic ligature temporarily applied; the uterus is then cut off, not on a level, but in such a manner that its longitudinal diameter runs parallel with the corner of the abdominal wound, that is, so that it is united from right to left; the broad ligaments are sutured to the stump with a few fine threads; its upper portion, with peritoneum sewed over it, now lies extra-peritoneal. The funnel-shaped wound is dusted with iodoform and filled with iodoform gauze, and over this a typical Lister dressing is applied. On the ninth day, the dressings are changed and the sutures successively removed. After the wound has united, it impresses one as an ordinary laparotomy wound. F. operated on nineteen cases in this manner, all recovering; one woman was discharged as early as the thirteenth day after the operation.

In myomata of the broad ligament, F. preserves the uterus; the growth itself is enucleated, and the sac stitched to the abdominal wound. Resection of the sac and drainage through the vagina, as Martin has advised, he considers unsuitable. The enucleation of the myoma from the uterus, according to Martin, will serve to render oöphorectomy in these cases superfluous.

OLSHAUSEN confirmed Fritsch's statement that the elastic ligation of the stump does not produce necrosis in it; the occurrence of abscesses, too, is rare, particularly if the tube has been thoroughly disinfected. At any rate, the nutrition of the stump is reduced, for which reason, since his removal to Berlin, O. does not drop the elastic ligature. The ligation of the broad ligaments in four portions, as Zweifel recommends, is unnecessary; it is amply sufficient to ligate the infundibulo-pelvic ligament, along which large vessels extend. In dressing the stump, we should guard against secondary hemorrhage by the ligation of the uterine artery. The multiple through-and-through stitching of the stump by Zweifel O. considers liable to give rise to sepsis, as the cervical canal is also pierced by it. O. first excises the cervical mucous membrane and disinfects the canal with sublimate pledgets; he

then sews it up with catgut, and finally covers the stump with peritoneum. Fritsch's suggestion appeared to him very useful.

WIEDOW is also of the opinion that sepsis originates very frequently in the cervical canal; three cases that resulted unfavorably induced Hegar to avoid dropping the elastic ligature. The dead tissue Hegar treats similar to Fritsch. He still values castration very highly, as its mortality is less than that of myotomy. He prefers the Deschamps needles to those of Bruns.

HOFMEIER was convinced that the intra-peritoneal method is capable of better results—it only needs to be improved. The stump is sutured solely to prevent hemorrhage and sepsis. It is superfluous to do so, however, if the cervical mucous membrane be thoroughly disinfected and the ligation of the vessels accurately accomplished. He simply hems the stump after thoroughly disinfecting the cervical canal.

FROMMEL observed no secondary hemorrhage either in Schröder's or in his own practice. Fifteen cases progressed smoothly; his sixteenth case he recently lost of intestinal obstruction on the seventh day after the operation; the autopsy revealed complete union of the stump, and not a drop of blood was found in the abdominal cavity. In three cases where he had enucleated the tumor, he sutured and dropped the resected sac with great success.

BREISKY spoke in favor of the extra-peritoneal treatment. He showed that Gersuny had employed the sagittal suture for the stump fully one year before Fritsch. B. now drains exclusively with iodoform wicks, and can recommend them warmly.

DOHRN had seen no evil results follow the dropping of the elastic tube.

KALTENBACH found nothing new in the two methods advanced; that of Zweifel is an intra-peritoneal, Fritsch's an extra-peritoneal operation. The results of the extra-peritoneal methods are better. The method of Zweifel he considers as a step backward to the period of multiple ligations, and it also appeared to him untrustworthy with regard to disinfection of the cervical canal. He does not recommend the use of the actual cautery, as the eschar is very prone to decomposition. He considers castration decidedly indicated in small multiple myomata.

ZWEIFEL pointed out that, according to his experience, the intra-peritoneal method does not sufficiently insure against secondary hemorrhage. The method of Fritsch possesses the advantages and drawbacks of the extra-peritoneal operation.

MARTIN is an advocate of the intra-peritoneal method; he, like Fritsch, prefers enucleation to castration, especially in the case of younger persons. Since he has had unpleasant experiences with silk (abscess formation and occlusion of the gut), he used juniper-catgut exclusively, and is very well satisfied with this material.

SKUTSCH (Jena) read a paper on

#### THE THERAPEUTICS OF RETROFLEXION OF THE UTERUS.

So long as we are unable to employ causal therapeutics in cases of retroflexion of the uterus dependent upon anomalies of the supporting apparatus of that organ, we must resort to a substitute for the lost function of the uterine attachments; this substitution the pessary is designed to perform, with which better results are obtainable than are generally reported. Failure in the treatment

by pessaries is often due to the fact that instruments are used which are not suitable for the cases they are intended to relieve, and, further, in that the obstacles to the reposition of the uterus to its normal position, or to its permanent retention there, are not completely, if at all, removed. Those cases in which peritoneal adhesions exist too firm to admit of separation (according to Schultze's method), as well as cases with extensive parametric cicatrices, are generally incorrigible. But even in such cases a cure is sometimes possible without resorting to a capital operation (laparotomy), by bringing about a state suitable for successful treatment with pessaries. This is accomplished by gradual stretching and methodical massage of the restraining adhesions and cicatrices.

For three years past S. has acted on this principle. The first opportunity to adopt this method was presented three years ago by a case of fixed retroflexion in which anesthesia was inadmissible because of cardiac lesions (it was intended eventually to employ the Schultze method of separation). More extensive stretching and massage was made use of by S., since, one and one-half years ago, he became acquainted with the art of massage of the female pelvic organs, by personal observation through Thure-Brandt. In cord-like peritoneal adhesions, stretching is best accomplished by making methodical efforts at bimanual reposition. In cases of broad adhesions or more extensive parametric exudations, the method of bimanual massage for chronic pelvic cellulitis perfected by Brandt is employed; as the exudate diminishes, gradual stretching is superadded. Should there be no obstacle to reposition, but to retention, direct stretching is the essential means towards success. The uterus is replaced bimanually, and the restraining bands stretched by movements made upon that organ. These stretchings are assisted by direct massage of the cicatricial cords. As soon as possible, an attempt should be made to fix the uterus in its normal position with a pessary.

The accomplishment of this technique requires careful diagnosis. In these investigations S. also gives more attention to the palpation of the pelvic floor; this showed that combined palpation of the floor of the pelvis may be useful for recognizing various normal and abnormal conditions in this region; one hand palpates through the vagina or rectum, the other at the same time externally, by being brought under the breech. Especially through the muscles lying deep in the pelvis, as, for instance, the pyramidalis (touched through the great ischiadic notch) or the levator ani, one can, by instituting active or passive movements, often familiarize himself with the parts.

During the last four years, 230 patients with retroflexion were admitted to Schultze's clinic at Jena; in 25 no treatment was resorted to, generally because there were other indications to be met; of the remaining 205 cases, satisfactory results were obtained



in 182 by means of pessaries, the co-operation of an intra-uterine stem being found necessary in only four of these. Fifteen cases were brought to a favorable condition for the successful application of pessaries by gradual stretching and massage. In 19 cases, peritoneal adhesions were separated by Schultze's method, in every case without injury; in 4 cases, only partial separation could be employed; 15 cases were completely relieved.

Among the cases which are difficult to treat by pessaries belong those with abnormally short anterior vaginal walls, but these may be lengthened by making transverse incisions and suturing them in a sagittal direction. Among the operative measures for retroflexion, laparotomy alone appears to have been followed by reliable results. S. admits the justifiability of opening the peritoneal cavity in cases of retroflexion of the uterus in which a cure cannot be obtained by other means; the possibility of success by any other measures must have been exhausted. As we cannot yet consider laparotomy as an operation devoid of danger, it is our duty to practise with particular zeal less heroic measures which lead to success; the disquisition given should contribute something towards this end. S. recommends particularly not to do laparotomy until the procedures discussed have been tried with painstaking care; he especially advises methodical stretching of the restraining adhesions and cicatrices.

In the discussion which followed, SCHWARTZ remarked that he first treats the complications, and then sees whether troubles remain which necessitate orthopedic treatment. He could not obtain lasting success by separating adhesions according to Schultze.

WERTH has performed the Alexander-Adams operation nine times with good success. One case was operated upon a year and a half, another one year ago.

WIEDOW called attention to pressure symptoms (inflammatory processes) which even well-fitting pessaries induce. He, therefore, condemned the frequent use of pessaries, and in particular the intra-uterine stem.

SAENGER remarked that Polk had performed abdominal fixation and Adams' operation in one case of retroflexion; S. favored abdominal fixation.

ENGELMANN (St. Louis) proceeds as follows in retroflexions: To tone the relaxed tissue he uses the faradic current; to cause absorption of the exudations, he employs the galvanic current, and accomplishes gradual stretching by means of elastic tampons. By these measures pessaries are rendered unnecessary.

FRITSCH considered treatment by pessaries one of the most difficult subjects in gynecology. ("It is much easier to do a laparotomy than to treat a retroflexion well.") Whoever says, "a Hodge pessary does not fulfil its objects," or "a pessary produces pressure-symptoms," has not sufficiently mastered this treatment to be sure of having selected the proper instrument. Excellent results are obtained from treatment with pessaries. F. advises not to discontinue their use.

WINCKEL agreed fully with Fritsch's remarks. He had been able to convince himself of the non-success of Adams' operation in America.



SCHULTZE also agreed with Fritsch, and at the same time emphasized the fact that he had never seen the complications disappear after reposition.

SKUTSCH was very glad to learn that treatment by pessaries had found so much recognition; he desired to state to Messrs. Schwartz and Wiedow that the results obtained from the procedures described are very good. With the Alexander-Adams operation he has had no experience.

SCHATZ (Rostock) exhibited

#### A URETHRAL CALCULUS OF UNUSUAL SIZE.

While practising onanism twenty-one months ago, a poorly nourished, but tall girl of 18 years dropped a hair-pin, bent extremity foremost, down her urethra, and for about six months thereafter occasionally felt with the finger one end of the pin in the urinary meatus. Until then she had also felt lancinating pains on walking or sitting; afterwards, however, she experienced only a more frequent desire to urinate, but did not suffer from incontinence. Last February violent tenesmus occurred.

The assistant called to the case found the point of a large stone in the vulva, but he could not circumscribe it from above, and believed that it was situated in the vagina. The next day, after two hours of straining with pain and bleeding, the stone shown was expelled and fell to the ground.

The knob presently to be described, which was attached to the stone, was fractured by the fall and its greater portion became detached. The stone has the form of a flattened radish or pear, measures in length eight centimetres, in its greatest circumference fourteen centimetres, and weighs 100 gm. At the upper blunt extremity is the remnant of the knob broken in the fall, lying at right angles to the long axis of the stone, on a pedicle  $2\frac{1}{2}$  cm. thick,  $2\frac{1}{2}$  cm. wide, and in height anteriorly 1 cm., posteriorly 2 cm.; this knob, to judge from the few pieces adhering to the stone and the fragments lost, must have been about the size of a small apple.

Before I had seen the patient, and on the strength of the assistant's statement that the stone had lain in the vagina, I assumed that the stone had originated thus: The pin which entered the bladder bent end foremost, pierced with its pointed ends the vesico-vaginal septum, became incrustated at both extremities, and remained, with its knob hanging in the bladder, after the septum had been destroyed, until the fistula had become large enough to admit of its expulsion from the vagina. (See a case of perforation by a vesical calculus from the bladder into the vagina, *Virchow's Arch.*, Bd. XLIII., p. 428, where the literature is given.)

But when I examined the patient, I found an almost intact hymen, narrow vagina, and no vesico-vaginal fistula, while the urethra admitted two fingers, was deeply lacerated on both sides, the posterior wall projecting apron-like into the vulva. The

vesical sphincter would not close, and was evidently lacerated in several places. I found no diverticulum in the bladder.

Both branches of the pin are encrusted in beautiful concentric layers, shown by the calculus being sawn through. According to this discovery, and the history just given, the origin of the calculus must be explained in the following manner:

The pin remained in the urethra after it had disappeared there, and impinged with one point in such a manner against the wall as to make its withdrawal impossible. The bent portion thus remained below the sphincter, so that dripping of urine did not occur. Gradually becoming encrusted throughout the whole, constantly enlarging urethra, it developed the calculus. The latter, as it continued to enlarge, held the sphincter open with its upper extremity, so that stone-formation also took place in the bladder and there produced the knob, the pedicle lying in the vesical sphincter. It was not until the urinary meatus had become abnormally enlarged that the stone was expelled, when the sphincter was distended still more by the button, and finally torn.

The case closely resembles one of Mazario (*Siebold's Journal*, VII., p. 794) in which the stone was of the same length, but thinner, and also had a projection, broken during removal, at the vesical end. The cause in this case was a rather long sewing-needle, which appeared in the vagina after more than a year, and was removed in a rusty condition by the patient herself. The stone developed in the urethro-vaginal septum. A fistula extended in both directions. To remove the stone, two incisions had to be made in the uretra. Complete recovery followed.

In my case, it was possible to effect continence at once by the use of my funnel-shaped pessary. I shall endeavor, however, to establish organic continence. Excisions in the lower half of the urethra have as yet not been successful. I am curious to know if excision at the sphincter itself through the vagina (B. Schultze and others) will meet with success. Because of the large, undoubtedly lateral tears at the sphincter, this appears to me doubtful.

SCHATZ made some therapeutical communications:

#### 1. DILATATION OF THE URETHRA IN PUERPERAL ISCHURIA.

Retention of urine in the puerperium is usually not a serious affection. It may, however, if it continues, be burdensome alike to patient and attendant. Especially in general practice, with imperfectly trained nurses, catarrh of the bladder resulting from repeated catheterization is not rare. For about ten years I have been treating the ischuria very simply and with the greatest success by stretching the urethra with a dilator constructed on the principle of a glove-stretcher. At first I used for this purpose the fillet-carrier of Trefort; at a later period, an instrument similar to this, but shorter. As soon as the spontaneous evacuation of

urine is impossible upon making one or more attempts, I introduce, instead of the catheter, this instrument until it enters the bladder, and stretch the sphincter to about the size admitting a slender little finger or its extremity, while the urine flows out between its two branches. The pain is moderate, and stops with the cessation of the stretching. Slight hemorrhage frequently follows. Usually, the spontaneous flow of urine is already possible with the next attempt. A second stretching is seldom necessary. In very rare cases even this fails.

I do not doubt that this procedure—which, because generally employed but once, is far less disagreeable to lying-in women, if done at all carefully, than repeated catheterization—will speedily find universal application in practice. Not infrequently we see a similar success follow the use of a rather thick catheter, but the latter is much more uncertain.

I cannot as yet give an explanation satisfactory to myself of the nature of this action. I devised this method while investigating the physiology of the contraction of the bladder, for purposes of comparison with the uterus. I recognized then that the detrusor is not to be considered an antagonist to the vesical sphincter in the ordinary act of micturition in women. That muscle can certainly open the sphincter, but this action induces an altogether different sensation from that in ordinary urination. During this act in most women the almost totally relaxed bladder does not contract at all. We must, therefore, assume another mechanism of the opening of the sphincter as generally prevailing—either an active relaxation of the sphincter or antagonists to the sphincter which draw it apart, and may perhaps be attached to the pubis. It was natural to suppose that when these antagonists, in consequence of previous stretching during delivery, are unable to act sufficiently, we may assist them by dilating the sphincter. We may also expect active relaxation of the sphincter to occur more readily when, after a certain amount of swelling or irritation, this part is rendered more pliant by stretching. The correctness of this idea I have as yet been unable to prove, but at any rate the treatment based on it has been successful, and it may also be tried in ischuria independent of labor; in the latter case, however, it is far less certain in its action. It seldom accomplishes anything in spastic ischuria, but in cases due to simple failure from lack of practice to urinate in the dorsal position, as after abdominal section, extirpation of the uterus, etc., success may be frequently obtained.

## 2. THE EXTRACT OF VIBURNUM PRUNIFOLIUM IN THE PAINS OF PREGNANCY.

Five years ago, at the National Meeting of German Physicians at Freiburg, I recommended *hydrastis canadensis* as a remedy to reduce hyperemia, and thereby hemorrhage, as well as chronic inflammatory conditions of the internal genitalia. This drug has

since then come into most extensive use, and private as well as published reports attest its generally very exact action, so long as nothing impossible is expected from it. Some of the failures which some physicians have observed are due to the fact that the drug is prepared in Germany, instead of from the fresh plant. The American article recommended, which is prepared from fresh plants, I have repeatedly seen produce the most astonishing results since my first publication. In uterine myomata, the menstrual flow has not only been diminished and regulated, but I have, for instance, seen a case where the growth reached almost to the umbilicus, which diminished so in the course of two years, under the administration of about three pounds of the fluid extract, that it almost disappeared again in the lesser pelvis. I confirm my earlier statements also as to the fact that hydrastis does not produce uterine contractions in the human subject; it merely causes narrowing of vessels. But I do not by any means wish to be understood that this remedy will render all, or even a majority, of myotomies and castrations superfluous. This it is not capable of doing. I only strive to induce those who try the remedy to do so regularly and for a sufficiently long time ere they condemn and discard it.

Even the most enthusiastic operator will be glad to use it for too frequent and profuse menstruation in young girls.

To-day I recommend a drug which likewise has come to us from America. It cannot by far be used as generally as hydrastis, but is in certain cases very acceptable because we have no other remedy which takes its place. It is the *viburnum prunifolium*, of which I received samples prepared by Parke, Davis & Co., Detroit, Mich., and which controls and acts as a sedative to the pains which in some women recur readily after previous abortion or premature labor, and endanger the continuance of the pregnancy. This remedy must also be taken regularly and for months, in doses of from three to four grammes of the dried extract. This drug can be replaced neither by opiates, because of their incidental effects, nor by bromide of potassium, which produces great sleepiness in the large and regular doses required. Of course, opiates cannot be altogether displaced by *viburnum*, especially not in cases where the onset of the pains is intense and requires speedy repression. Rest in bed, likewise, at least for some time, cannot be dispensed with in such cases, and, of course, we may expect success only when the ovum is alive and further injuries are avoided. Nevertheless, I have succeeded in several cases, where the first consultations could not establish the death of the fetus, in retaining it several months within the uterus by the use of *viburnum*, notwithstanding that the miscarriage which occurred later or the artificial removal of the fetus showed that it had been dead for months. During labor at term, as in all cases where the onset of the pains is violent, *viburnum* acts too slowly and gently to be of use.

As to the modus in which the drug acts, I am unable as yet to give any information, *i. e.*, whether it does so by exciting the uterine inhibiting centre or paralyzing the uterine motor centre. I believe the former to be more likely.

### 3. SNARING THE ARM IN UTERO DURING VERSION AND EXTRACTION IN CONTRACTED PELVIS.

Cesarean section in contracted pelvis will never yield the same good results for the mother as version and extraction, and only considerations for the life of the child can justify the relative indication for the operation—and that, too, only under certain circumstances. Every means by which version with extraction will enhance the chances for the life of the child will limit the relative indications for Cesarean section, and this appears to me, from the rather frequent occasions upon which this operation is done for relative indications, as necessary, pretty though the present successes of this operation may look in the operating room.

It is our duty, therefore, to devise means to preserve the life of the child as often and as certainly as possible in performing version and extraction in contracted pelvis.

It strikes almost every one, and we heard it brought forward again yesterday in the paper by Winckel, how often the head is brought through the pelvis with astonishing ease after we have succeeded in overcoming the resistance of the soft parts, and I have repeatedly gained the impression that of the children who die during extraction a goodly proportion does not succumb so much to the difficulty attending the passage of the head as to the difficult and prolonged efforts to release the arm.

In a case of transverse narrowing of the pelvis which I attended in Leipsic, and which was treated after me by a number of assistants,<sup>1</sup> I snared the arms in utero in 1872, at the third confinement, in my attempt to extract a living child; this was done to obviate the necessity for freeing the arms; and I succeeded a second time in delivering a living child of 50 cm., which though it had a cephalhematoma, survived until the second year, when it succumbed to a disease incidental to childhood. At the first confinement, perforation, etc., was employed; at the second I induced premature labor and turned. The child, a boy of 40½ cm., died four hours later.

The five subsequent children, which were all delivered by the induction of premature labor, version and extraction, also died shortly afterwards, although they were not of large size, while the sixth, which was 51 cm. long, and the head of which was born with great difficulty, survived. The two largest children, therefore, notwithstanding their larger heads, survived extraction through a contracted pelvis. The others very likely perished only in part through the difficult delivery of the head, and certainly in part through the protracted extraction due to the difficulty of free-

<sup>1</sup> Arch. f. Gynäk., Bd. 1., p. 150; Bd. xxiii., p. 79.



ing the arm. During very protracted extraction, the distribution of blood must necessarily be greatly disturbed, and hemorrhage into the brain, etc., decidedly favored.

Since that first occasion when, as I believed, I extracted a child that survived, mainly by avoiding the difficult task of freeing the arm, I have, in a number of cases where a living child was desired after many difficult operative labors conducted by others and resulting in dead children, snared one or both arms in utero after version and before extraction, and believe that by this means alone I have saved the lives of many children. Of course, to obtain parallel cases and where it seemed unnecessary, I have also frequently omitted this precautionary measure. In general, I have gained the impression thereby, that the intra-uterine snaring of one or both arms renders the extraction far less dangerous to the children in cases of contracted pelvis.

The shorter period of extraction, the far smaller circulatory disturbance in the child, and the necessarily greater deliberation with which the delivery of the head may then be completed, may all contribute to this result. The loss of time in snaring the arms in utero cannot be considered, as the child does not suffer respiratory embarrassment at that period. A certain degree of dexterity is of course necessary, but this is no greater than that requisite in those who undertake to save the lives of children by version and extraction through narrow pelvis. Appropriate fillets and fillet-guides are not immaterial. I have re-introduced the guide of Trefort for this purpose.

ZWEIFEL (Leipsic) read a paper on

#### PERINEOPLASTY.

In cases of *complete perineal laceration*, the author proceeds as follows, according to the method of Lawson Tait: Two fingers are introduced into the rectum, thus unfolding the whole perineal laceration and stretching it transversely; this act at the same time separates the fissure which usually runs up the rectum about two to four centimetres. Now follows the first incision which circumscribes the flap; for this Lawson Tait advocates short bent scissors, but a very sharp knife will answer as well. The transverse incision which is to outline the flap begins in the centre of the recto-vaginal tear. He divides the recto-vaginal septum medially and continues the incision on the border of this septum toward both sides in the direction of the perineum. This horizontal incision terminates on the perineal integument at the point corresponding to the commissure to be newly formed. Commencing at the centre of the laceration, this upper limit of the flap diverges more and more from the course of the septum which, of course, descends to the anal opening. Therefore, the upper horizontal incision which is to limit the flap at the integument remains at the precise distance from the anal opening that the perineum is to be widened. The flap thus circumscribed is cut under, so that it may



be turned backward to form the covering over the rectal defect. On the external skin the flap is made reversible, according to the requirements, by a vertical incision. The flap is turned backward and held there with a sharp tenaculum hook. The sutures are then introduced, that is, only two vaginal and a few perineal sutures, according to requirement. The vaginal sutures do not run at right angles to the wound margin, but they surround the raw surfaces obliquely, that is to say, the points of insertion and emergence are relatively near the introitus vaginae, while the threads extend several centimetres higher up, under and around the entire wound. For this reason two sutures suffice; the second vaginal suture enters and emerges at the point where the posterior commissure is to be formed. A few perineal sutures are inserted and the operation is completed. The flap turned into the rectum requires no attention; relaxing incisions, etc., are not needed. But provision for soft stools must be made in the next few days.

The great advantages as regards speed and reliability of this method for complete perineal rupture induced Z. to adapt it to *incomplete lacerations*. Again two fingers are introduced into the rectum to secure transverse tension. Then an incision is made in the middle of the posterior vaginal wall or over the scar of the laceration down through the entire thickness of the vaginal mucosa; thence it is carried transversely toward both sides to the point of the posterior commissure which is to be newly formed. Thus two triangular flaps are circumscribed; these are freed by a few sweeps of the knife, and the wound united by an uninterrupted dropped catgut suture, or else by vaginal sutures of silk or silk-wormgut placed similar to those used in complete rupture. Then, after the last vaginal suture is tied, the posterior commissure is made tense in front, and as many stitches are put into the perineum as are needed to unite it.

FRANK (Cologne) had always observed good results from Tait's method.

SAENGER.—The first method described by Zweifel is not quite identical with Tait's former one; the second is that of A. R. Simpson, as simplified and improved by Tait. According to this new Simpson-Tait method described by him, he had now operated thirty-six times, and was perfectly satisfied with it.

OLSHAUSEN spoke in justification of Tait's operation; he prepares the flap with the knife and uses dropped catgut sutures.

SAENGER (Leipsic) read a paper on

#### INJURY TO THE BLADDER DURING LAPAROTOMY.

In such cases we have to deal almost exclusively with atypical injuries inflicted on the bladder either in its extra-peritoneal or its intra-peritoneal portion.

Recently S. had a case of wounded bladder, more peculiar and difficult than any heretofore described, which led to a new method of treating vesical lesions. During removal of a very large cystic fibro-sarcoma of the right ovary with extensive flat adhesions (due to twisted pedicle), the thin, elongated true pedicle was mistaken

for an adhesion, and the greatly elevated bladder imbedded in adhesions was taken for the pedicle. This misconceived pedicle was pierced with Bruns' needle, tied in three portions with strong silk, and cut off above, when it was found that a portion of the bladder, the size of half the palm of the hand, had been removed.

The stump of the bladder was drawn up by the threads of the silk ligature into the lower angle of the abdominal wound, the parietal peritoneum was stitched together behind it from two sides, so as to place it entirely extra-peritoneal; then it was further fastened by some silk sutures passing transversely through the parietal peritoneum and the stump; the six silk threads were led outward through the opening of a glass drainage tube inserted behind the united parietal peritoneum, and the skin sewed over the stump of the bladder. (The vesical mucosa had completely retracted downward.) In the first two days the catheter was used every three hours, then for eight days the bladder, from which much blood was passing, was drained. *Recovery ensued without any mishap and no fistula formed.* The silk threads were removed one by one, after several weeks.

S. recommends his method of extra-peritoneal disposal of the vesical stump with immediate transplantation of the skin, not only for similar cases, but, owing to the unreliability of the primary vesical suture—which, according to Rydygier, succeeded only in thirty-three per cent of the cases—also when the bladder was injured intra-peritoneally and *sutured*, the procedure being modified as described by the author for the intra-peritoneal encapsulation of the stump after amputation of the myomatous uterus.

S. then described a case of *uracho-abdominal fistula* which formed eight days after a laparotomy and was due to the fact that the urachus, whose patency could not have been suspected, had been included in one of the abdominal sutures and opened through necrosis from pressure. Closure of the fistula by suture was postponed because pregnancy had intervened. S. therefore advises, when the stem of the urachus is encountered, to make the incision lateral to it and to insert the peritoneal sutures external to it.

LEOPOLD had wounded the bladder during a myomotomy; the convexity of the bladder had been included in the elastic ligature and removed. The wound was closed with sero-serous sutures. The defect healed without any disturbance.

(To be concluded.)

## ITEMS.

THE following are among the papers to be read at the annual meeting of the Southern Surgical and Gynecological Association, to be held at Birmingham, Alabama, September 11th, 12th,

13th, 1888. Floating Kidney, with Vicarious Menstruation, DeSaussure Ford, M.D., Augusta, Ga.; Gastrotomy, W. B. Rogers, M.D., Memphis, Tenn.; The Medical Treatment of Fibroid Tumors of the Uterus, Bedford Brown, M.D., Alexandria, Va.; Indications for Operative Interference in Cerebral Troubles, T. O. Summers, M.D., Jacksonville, Fla.; A Case of Tubal Pregnancy, Presenting Interesting Medico-Legal Relations, E. P. Sale, M.D., Aberdeen, Miss.; Superinvolution of the Uterus following Trachelorrhaphy, Virgil O. Hardon, M.D., Atlanta, Ga.; (I.) Dermoid Cysts of the Coccygeal Region, and (II.) Electrolysis in Gynecology and Surgery, E. J. Beall, M.D., Fort Worth, Texas; Alexander's Operation, W. L. Nichol, M.D., Nashville, Tenn.; Hysterectomy in Cancer of the Uterus, W. H. Wathen, M.D., Louisville, Ky.; The Extravagancies and Impracticable Requirements of Modern Antiseptic Surgery, so far as the Country Practitioner is Concerned, J. M. Taylor, M.D., Corinth, Miss.; The Present Status of Electro-Therapeutics in Gynecology, J. R. Buist, M.D., Nashville, Tenn.; Antiseptics in Surgery and Gynecology, F. T. Meriwether, M.D., Asheville, N. C.; The Attitude of Removal of the Uterine Appendages for the Cure of the Convulsive Neuroses, W. Locke Chew, M.D., Birmingham, Ala.; Interesting Cases of Surgery, R. M. Cunningham, M.D., Pratt Mines, Ala.; My Antiseptic Bags, or Practical Aseptic Surgery, J. W. Long, M.D., Randleman, N. C.; The New Departure in Uterine Therapeutics—The Dry Method, T. A. Means, M.D., Montgomery, Ala.; A Study of the Various Methods of Treatment of Laceration of the Perineum, and Rectocele, with Report of Cases, J. H. Blanks, M.D., Meridian, Miss.; Some Practical Thoughts in Surgery, James Guild, M.D., Tuscaloosa, Ala.; Perineal Lacerations, M. C. Baldridge, M.D., Huntsville, Ala.; The Field and Limitation of Laparotomy, I. S. Stone, M.D., Lincoln, Va.; Discussion, Abdominal Surgery. Drs. Jno. Herbert Claiborne, Duncan Eve, Paul F. Eve, W. T. Briggs and others will present papers, but as yet have not stated their subjects.

#### APPEAL TO THE MEDICAL PROFESSION FOR REPRINTS.

The Editor of the *Jahresbericht über die Fortschritte der Geburtshülfe und Gynäkologie* (Annual Report of the Progress of Obstetrics and Gynecology), PROF. FROMMEL (Erlangen, Bavaria), assisted by Prof. Ahlfeld (Marburg), Privatdozent Bumm (Würzburg), Prof. Hofmeier (Giessen), Privatdozent Loehlein (Berlin), Privatdozent Veit (Berlin), Privatdozent Saenger (Leipzig), Prof. Schwarz (Halle), Prof. Stumpf (Munich), Prof. Wyder (Zürich), requests the medical profession at home and abroad to assist the enterprise by kindly forwarding to him at Erlangen all recent papers belonging to both branches (monographs and reprints). The volume for 1887 will appear during the coming autumn.

THE AMERICAN  
JOURNAL OF OBSTETRICS  
AND  
DISEASES OF WOMEN AND CHILDREN.

---

---

VOL. XXI.      OCTOBER, 1888.      No. 10.

---

---

ORIGINAL COMMUNICATIONS.

---

SUPERINVOLUTION OF THE UTERUS FOLLOWING  
TRACHELORRHAPHY.

---

BY

VIRGIL O. HARDON, M.D..

Professor of Obstetrics and Diseases of Women and Children, Atlanta Medical College,  
Atlanta, Ga.

---

IN August, 1887, I reported, with brief comments, two cases of what I termed "superinvolution of the uterus following trachelorrhaphy."<sup>1</sup> In that report, I expressed the conviction, founded upon an examination of the literature at my disposal, that no similar cases had previously been published. Further investigation has proven the correctness of this opinion. By correspondence with a large number of the leading gynecologists of this country and of Europe, I have, however, been able to collect seven hitherto unpublished cases, thus showing that my experience has not been unique, and demonstrating the possibility of the occurrence of superinvolution as a troublesome sequel of Emmet's operation for the repair of the lacerated cervix. I propose in this paper to consider the pathology of this condition, and to report the cases which I have been able to gather.

<sup>1</sup> Atlanta Med. and Surg. Journal, August, 1887.

Involution is the term applied to the physiological process by which the womb returns to its non-puerperal condition after labor. The most generally accepted theory in regard to the manner in which this change is effected is that advanced by Heschl.<sup>1</sup> This theory is summarized by Lusk as follows: "The processes are inaugurated at the commencement of labor. During the rapidly following contractions of the uterus, the cell elements are consumed, while at the same time the compression of the nutrient vessels cuts off fresh supplies from the oxidized protoplasm. The fatty degeneration of the muscular fibres continues after the expulsion of the ovum. The contractions which bear the name of after-pains point to the continuance of muscular cells capable, for a time, of functional performance. Gradually, however, the proteine substances are converted into fats, which undergo absorption. Whether the enormously enlarged cells of pregnancy ever entirely disappear is still an open question. In the fourth week, young cells of new formation make their appearance upon the external layer of the uterus, from which eventually a new uterus is developed. Thus destruction and reparation go hand-in-hand. In from six to eight weeks, the process described reaches its completion."<sup>2</sup>

Subinvolution is defined, in one of the most recent works on gynecology, as a prolongation or arrest of the process of involution.<sup>3</sup> This definition fails, however, to express in its entirety the actual condition under such circumstances. It is true that, if during the process of involution the circulation of blood in the uterus is deranged by any irritating cause, a congestion of the organ follows, and the muscular fibres receive sufficient blood to furnish them the material for the continuance of a certain amount of their vital activity, so that, instead of undergoing fatty degeneration, they continue for a time to enjoy a low grade of existence. But what is of greater importance than this partial persistence of the hypertrophied muscular fibres is the fact that an active proliferation of connective tissue ensues. After a variable length of time, this proliferation reaches its limit, the newly formed connective tissue undergoes contraction, and the uterine walls present more or less of a dense, white cartilaginous

<sup>1</sup> Zeitschr. d. K. K. Gesellsch. d. Aerzte zu Wien, VIII. Jahrg., zweite Hälfte, 1852, S. 228 u. ff.

<sup>2</sup> Lusk, "Science and Art of Midwifery," 2d ed., p. 241.

<sup>3</sup> Byford, "Diseases of Women," 4th ed., p. 563

appearance, and sometimes even creak under the knife when cut. At this stage, the connective tissue in the womb may exceed the muscular tissue in quantity.<sup>1</sup>

Subinvolution of the uterus involves, therefore, three factors: 1st, congestion of the organ; 2d, failure of the muscular structure to undergo complete degeneration and replacement; 3d, excessive development of the intermuscular connective tissue. The microscopical researches of Beck,<sup>2</sup> Klob,<sup>3</sup> and Sinéty<sup>4</sup> agree in showing that the excessive development of connective tissue is the essential pathological condition. Hyperemia is recognized as a prominent feature in the early stage of subinvolution, as is shown by the fact that it is the condition to which treatment is always directed during this stage. Thomas says: "The element which sustains the disease is an excessive supply of blood."<sup>5</sup> But as the morbid process develops, this factor gradually diminishes; and as contraction of the organ progresses, sometimes after months and sometimes after years have elapsed, it may disappear altogether, and a condition be reached in which the womb is scarcely more than a ball of hard fibrous tissue, poorly supplied with blood, and retaining only a small portion of its original muscular structure. This is the condition which has been variously termed "chronic metritis,"<sup>6</sup> "diffuse connective-tissue proliferation,"<sup>7</sup> "areolar hyperplasia,"<sup>8</sup> and "sclerosis uteri."<sup>9</sup>

The most common cause of subinvolution of the uterus is conceded to be laceration of the cervix. Emmet says: "For many years past, I have met with few or no cases of subinvolution which were not due to laceration of the cervix."<sup>10</sup> When a laceration has occurred, Nature sets about repairing the injury by the usual processes of inflammation and granulation—processes which are antagonistic to the processes of degeneration and involution which are going on in the womb at the same time. The consequence is that neither process is per-

<sup>1</sup> Klob, "Pathol. Anat. d. Weibl. Sexualorg.," Wien, 1864.

<sup>2</sup> London Obstet. Trans., vol. XIII., p. 239. <sup>3</sup> Op. cit. <sup>4</sup> "Gynécologie," Paris, 1879, pp. 315, 351.

<sup>5</sup> "Diseases of Women," New York, 1880, p. 317.

<sup>6</sup> Scanzoni, "Die chronische Metritis," Wien, 1863.

<sup>7</sup> Klob, op. cit.

<sup>8</sup> Thomas, Op. cit. <sup>9</sup> Skene, AM. JOUR. OF OBST., vol. V., pp. 387, 481.

<sup>10</sup> "Principles and Practice of Gynecology," 3d ed., p. 439.



fectly performed. The wound in the cervix is not readily healed, but remains for a time as a granulating surface, causing the womb to become permanently congested under the continuous efforts of Nature to accomplish the reparative process. The overweighted womb sinks below its normal position in the pelvis, its circulation is thereby interfered with, and a venous stasis results, increasing and perpetuating the already existing congestion. This continued congestion forms the starting point of the condition of subinvolution after the manner already described.

Since the womb, when unaided, has no tendency to rid itself of this congestion, the first stage of subinvolution, the stage of hyperemia is usually one of long duration, so long, indeed, that in the majority of cases, unless arrested by treatment, it persists until the occurrence of the physiological menopause. The symptoms of this stage are such as result from increased weight of the uterus, and reflex manifestations of irritation of the uterine nerves. In exceptional cases, however, the hyperemia disappears before the occurrence of the menopause, thus inducing the second stage of subinvolution, the stage of so-called "sclerosis uteri," whose symptoms consist only of the nervous reflexes and scanty menstruation or absolute amenorrhea. In some cases, the nervous reflexes are absent, and scanty menstruation or entire amenorrhea constitutes the only symptom. The condition thus reached is the same as that which has been described by various authors under the name of superinvolution.

Sir Jas. Y. Simpson thus describes a case of superinvolution following labor, in which he was so fortunate as to obtain an autopsy: "The uterus was very small and atrophied in its length and breadth, its size being diminished about a third below the natural standard, in all its measurements, and its parietes were correspondingly thin and reduced. The whole length of the uterine cavity, from the os to the fundus, was not more than one inch and a half. The tissue of the uterus appeared dense and fibrous."<sup>1</sup> Thomas says, in speaking of the final stage of subinvolution: "Every practitioner must have met with cases in which a large, red, engorged, and soft uterus, examined after an interval of several years, has been found, to his surprise, to have become small, densely hard, white, and anemic, and its

<sup>1</sup> "Diseases of Women," New York, 1872, p. 598.

cavity diminished in size. Such an organ removed from the body cuts like fibrous tissue, and appears, when cut, almost as dense and bloodless."<sup>1</sup> The identity of the two conditions is obvious.

Thus it would appear that superinvolution is simply the final stage of subinvolution, or, as Reamy states it, "the tendency of this disease (subinvolution), untreated and uncomplicated, is to the establishment of chronic metritis and later sclerosis of the uterus, the so-called superinvolution."<sup>2</sup>

It is evident that, if by artificial means the hyperemia, which forms a distinguishing feature of the first stage of subinvolution, be made to disappear, the resulting condition may be, to a greater or less degree, the same as when the second stage is reached in the uninterrupted course of the disease. It has been shown that, in subinvolution from laceration, this hyperemia is perpetuated by the mechanical injury to the womb, and the downward displacement of the organ. Clinical experience has demonstrated that when this injury is repaired by trachelorrhaphy, the hyperemia disappears, and the womb gradually returns to its normal condition. This is the usual result of trachelorrhaphy. But if, previous to the operation, the connective-tissue proliferation has progressed to such a degree that Nature is unable to accomplish a *restitutio ad integrum*, after the exciting cause is removed, the operation will not have cured the subinvolution, but, by removing the hyperemia, will simply have precipitated the final stage of the disease, the stage of sclerosis uteri or superinvolution. It is thus that the occasional occurrence of superinvolution, as a sequel of trachelorrhaphy, appears to me to admit of rational explanation.

In a recent article by Saenger, of Leipsic, upon "The Involution of the Muscular Tissue of the Puerperal Uterus,"<sup>3</sup> the views of Heschl of involution by fatty degeneration and replacement are combated, and a new theory is advanced, based upon microscopical examination of seventeen uteri. Two of these were normal, unimpregnated organs of women who had borne children; two at the sixth and eighth months, respectively, of gestation; twelve puerperal, representing stages of the puerperium varying from four hours to fifty-five days after

<sup>1</sup> Op. cit., p. 320.

<sup>2</sup> "Amer. System of Gynecology," vol. I., p. 659.

<sup>3</sup> "Annals of Gynecology," July, 1888.

labor; while the seventeenth specimen was one in which pregnancy had been present in the rudimentary horn of a *uterus bicornis*. This article bears so directly upon the subject under consideration that I feel warranted in quoting certain of Saenger's conclusions in full. His fifth, seventh, ninth, and tenth propositions are as follows :

(5.) Probably not a single muscular fibre is destroyed by complete fatty degeneration. The regressive changes within the puerperal muscular fibres, which may be denominated *paratrophic*, have for their object only the true involution of the muscular fibres until they have attained their earlier size and form. The definition of atrophy, as a pathological process, does not correspond with the physiological nature of these processes.

(7.) The intermuscular connective tissue experiences a similar involution in its cellular and fibrillar elements; thus it does not play any active part nor experience hypertrophy.

(9.) *Post-partum* subinvolution of the uterus is not an independent disease, but a prolonged and incomplete involution, which is disturbed in its progress, and is dependent upon changes in position, disturbances in the circulation, and inflammations of the uterus and its surroundings.

(10.) By *post-partum* atrophy of the uterus is signified a diminution in its size which brings it to the boundary line of the pathological, so that its volume may sink manifestly below that of the normal pluriparous uterus, this being conditioned upon an abnormally great reduction in the muscular fibres and the intermuscular connective tissue, with an anemia of the uterus, the sexual organs in general, or the entire body, as a probable fundamental cause. In physiological cases the nutrition improves, the increase in the volume of the uterus is continued until the normal is again reached, and menstruation returns as a regular and uninterrupted function. In pathological cases the uterus remains permanently atrophic with the continuance of oligomenorrhea or amenorrhea.

If these views shall be corroborated by other competent observers, our prevailing theories in regard to subinvolution and superinvolution must undergo decided modification. From Saenger's standpoint it will be very difficult to explain those cases of sclerosis uteri following subinvolution in which there is not only relative, but absolute hypertrophy of connective tis-

sue, such as have been observed by competent authorities too frequently to admit of any doubt of their existence.

The cases of superinvolution which I have reported find their explanation, in Saenger's opinion, in his tenth proposition quoted above. He regards them simply as cases of normal *post-partum* atrophy, following the completion of involution after the operation of trachelorrhaphy. In a private communication which I received from him, he states that such is his view, and expresses the opinion that without any treatment my two patients would have resumed their normal menstrual functions in the natural course of events. Granting his theory of involution to be correct, it appears to me more rational to place my cases in the category referred to by him, of "pathological cases in which the uterus remains permanently atrophic with the continuance of oligomenorrhea or amenorrhea." In this connection, it is interesting to note the fact that, of the nine cases collected by me and reported herewith, in eight which were treated by intra-uterine faradization the menses returned, while in one which had no treatment the menses did not return (Case III.).

In response to letters of inquiry sent to leading gynecologists of this country and of Europe, fifty-six replies have been received. Of this number fifty-three stated that no cases similar to those reported by me had been observed by the writers. From the remaining three replies, reports of seven cases were obtained; one from Dr. A. Reeves Jackson, of Chicago; two from Dr. Geo. F. Hulbert, of St. Louis, and four from Dr. C. Kollock, of Cheraw, S. C. Through the courtesy of these gentlemen I am permitted to present herewith their reports of these cases together with my own two.

CASE I.—Mrs. H. B. L., white, married, aged 32, suffered laceration of the cervix in her third labor six years ago. Since that time has experienced bearing-down sensations, backache, pain in loins, frequent micturition, leucorrhœa, menorrhagia, headache, insomnia, neuralgia, mental depression and indigestion. Examination showed a bilateral laceration of the cervix, the womb in a state of subinvolution, three inches deep. June 7th, 1886, trachelorrhaphy was performed, perfect union followed, and patient returned to her home. Three and a half months later she was seen by me and was then free from all her former symptoms, both local and general.

In March, 1887, nine months after the operation, the menses, which had been normal since the operation, began to become scanty. At the same time there developed neuralgia of the head

and back of the neck with pains up and down the spine. Vertigo, dimness of vision so that she was unable to read or write, insomnia, great mental depression with hysterical tendencies, loss of appetite and flesh, all followed, so that by midsummer she seemed a complete wreck.

On the 16th of August, she entered my private infirmary for treatment. Examination showed the laceration to have been completely and permanently cured. The womb was small, being scarcely two inches deep, and felt dense and hard to the touch. The cervix was small and the canal with difficulty admitted a Simpson's uterine sound. No tenderness or hardness in the cellular tissue, no leucorrhea and no local pain. The menses lasted only a few hours at each period and were pale and watery.

The patient was placed upon nourishing diet and a tonic of iron, quinine, and strychnia. The faradic current of electricity was applied directly to the womb for half an hour on every second day. The positive pole was placed in the uterine cavity and the negative pole applied to the hypogastrium. This treatment was continued for three months. Under the stimulus of the electric current the womb gradually increased in size until it reached a depth of  $2\frac{1}{2}$  inches. The menses were restored to their normal color, quantity, and duration. The nervous symptoms gradually disappeared, and the patient recovered her full strength and health.

CASE II.—Mrs. J. T. S., white, married, aged 27. Always well until the birth of her child two years ago. Since then she suffered from backache, pain in the pelvis, difficult and frequent micturition, painful defecation, nervous depression, insomnia, and indigestion. The indigestion has become a very prominent feature and during the past year she has been under constant treatment for this symptom by various physicians without relief. Examination showed the womb to be enlarged,  $3\frac{1}{4}$  inches deep, low in the pelvis and tender to the touch. Laceration of the cervix on the left side with eversion of the lips. February 26th, 1887, trachelorrhaphy was performed and perfect union followed. The relief of the symptoms was immediate. The persistent indigestion which had resisted all remedies was at once relieved and did not return. The local pains disappeared and the nervous symptoms subsided. The two menstrual periods following the operation were normal in all respects. In May the flow was very scanty, lasting only a day and a half, and in June did not appear at all. In other respects the patient's health remained good. Examination made July 1st showed the womb to be only two inches in depth and hard and dense to the touch. The laceration was entirely cured and there was no pain or hardness in any portion of the pelvic cellular tissue. Intra-uterine faradization was applied three times a week and daily for the week preceding the time of the menstrual period. The menses appeared for two days in July and three days in August. The electrical

treatment was continued for two months, during which time the womb gradually increased to a depth of  $2\frac{3}{4}$  inches and the menses became normal and remained so until the patient became pregnant in October, 1887. She was delivered by me in July following, and is now in perfect health.

CASE III.—(By Dr. A. Reeves Jackson.) “Mrs. A. W., 34 years of age, was delivered of her fourth child by the aid of forceps. She left her bed at the end of three weeks, but soon found that she was not so capable as she had been on former similar occasions. On examination, at the end of two months after confinement, her physician discovered a bilateral laceration of the cervix, with marked eversion. A bloody discharge had continued since the birth of the child. Two months later I saw her. A bloody mucus in great abundance was issuing from the cervical canal, and from the exposed cervical endometrium. The uterus was soft, tender, heavy, and the depth of the canal, measuring from the proper uterine mouth, was nearly four inches.

“Trachelorrhaphy was performed September 9th, 1885, four months after delivery. Recovery was satisfactory. In the following February her physician informed me that a menstrual period had appeared in November, without pain, the amount of discharge being decidedly less than the patient had ever previously known. In August, 1886, the latter came to the city for the purpose of having me determine the possible presence of pregnancy. After the scanty flow in November, she had menstruated with entire regularity for five months, the quantity of discharge becoming each time less, until at the last, which occurred in April, a mere light-reddish stain was apparent on the napkin. From that time onwards she had adopted the theory of pregnancy, although all other usual symptoms of that condition were absent.

“On examination, I found the uterus atrophied in every dimension. It seemed about two inches in length, as defined by bimanual, but the os externum was closed, and, therefore, I could not ascertain the depth of the canal. Her health was apparently perfect, and no treatment was advised. There had been no morbid symptoms for the past few months. The uterus and ovaries had apparently gone out of business together.”

Dr. Geo. F. Hulbert writes, “I have met this condition in only two cases out of one hundred operated upon by me.”

CASE IV.—“In one of these there was nothing to denote any trouble save an absolute cessation of menstruation. This case came back to me for treatment one year after the operation under the impression that I had closed up the mouth of the womb so completely that the blood could not get out.

“Close questioning established the fact that there had not been the slightest menstrual menses during the time. Patient was



to all intents and purposes in a normal condition, save the delusion afore-mentioned. The uterus was infantile in size, one and a half inches in depth. There were no evidences of any diseased condition about the adnexa. The ovaries could be felt, and they, too, had become much smaller than normal. Electricity in two months relieved the condition, and a year after I delivered her of her second child."

CASE V.—"The other case presented locally like features to the above, save the ovaries were not involved—at least to the same degree—for the size was not so small and they possessed a degree of sensitiveness more nearly approaching the normal. Menstrual molimina were present in this case, and during this time the sensitiveness was more pronounced. This patient was a victim to melancholia and neuralgia of the fifth nerve, which made her existence miserable. There was a history of neurotic troubles in her family, an uncle having been insane. In this case, electricity accomplished a return of the menstrual function in six weeks. This patient about a year after returned to me again suffering from amenorrhea for a period of three months. Examination revealed pregnancy.

"In the first case (Case IV.) menstruation ceased after the second appearance following the operation. In the second (Case V.) it was after the fifth month. In both, the operation was performed a few months (two to three) after the parturition that caused the laceration, and before the menses had become established. In both, however, menstruation came on after the operation, but only temporarily."

CASE VI.—(By Dr. C. Kollock, of Cheraw, S. C.) "Mrs. I. T. G., aged 31, has five children, never had an abortion; a complete blonde, light hair, blue eyes, fair and very clear complexion; was brought up in affluence, never knew anything of hardship. General health always good, is very intellectual and highly cultivated, nervous and excitable, though generally has good control of herself. Has never had the slightest trouble in menstruation until within the last two years. Youngest child is now three years of age. In her last confinement she had a bilateral laceration of the cervix uteri. Since that time she has suffered all the usual tortures of subinvolution of the uterus, and life was a burden until I did the operation of trachelorrhaphy on the 16th of January, 1887. She lives some distance from me, but remained with me nearly two months after the operation. The operation was a complete success, and all unpleasant symptoms, rational and physical, disappeared before she left for her home in North Carolina. I received letters from her repeatedly in which she always spoke of the great improvement in her

health. In the latter part of November, 1887, I got a letter from her, from the tone of which I judged she was very miserable. I immediately wrote her to come at once to Cheraw, which she did about the 10th of December last. Upon examination I found her suffering from all the signs of superinvolution. The uterus was reduced almost to a state of senile atrophy. Depth scarcely two inches, cervix hard and small. Menstruation scanty, thin, and watery, sometimes missing. In conjunction with tonic treatment, intra-uterine faradization was applied three or four times a week. In about two months, under this treatment, the womb increased to two and a half inches in depth, menstruation became normal, and the patient returned to her home in good health."

CASE VII.—(Dr. C. Kollock.) "A lady who lives some distance from Cheraw came to be treated by me about six weeks ago. She had trachelorrhaphy done by another physician in November, 1886. Was entirely relieved, she tells me, of all the unpleasant symptoms of subinvolution till about the 1st of October, 1887, when menstruation became irregular, was thin and colorless, and very scant. When she came to me she had not menstruated in six weeks, was low-spirited, had constant backache, neuralgia at times, and was much troubled with indigestion and insomnia. Examination showed the uterus in an atrophic condition much resembling that which occurs after the menopause, and hardly measuring two inches in length. Under a general tonic treatment of iron, quinine, and strychnine and applications of electricity to the uterus three times a week, she now shows improvement. She menstruated about two weeks ago with decided improvement, both in quantity and quality."

CASES VIII. and IX.—(Dr. C. Kollock.) "Two other cases upon which I had operated for laceration of the cervix were in pretty much the same condition and presented the same symptoms. I put them on a general tonic treatment of iron, quinine, and strychnine and applied electricity to the uterus three times a week. These patients are beginning to show signs of improvement now and I see no reason why they should not be entirely relieved in the course of three or four months."

ACCIDENTAL HEMORRHAGE IN LABOR.<sup>1</sup>

BY

STANLEY P. WARREN, M.D.,

Portland, Maine.

CASES are occasionally met in the lying-in room, where the first morbid symptom is flooding. The title "unavoidable" or "accidental" hemorrhage is given to this, according as it is associated with placenta previa or with a premature separation of a normally located placenta. The form due to placenta previa, "unavoidable hemorrhage," will not be discussed in this paper. The other, "accidental hemorrhage," is so rare that a personal experience with it may excuse the present writing. In that class I wish to unite cases due to placental detachment with all others in which hemorrhage, before the completion of the second stage, is prominent. When the accoucheur is first called to a woman with ante-partum bleeding, he may not immediately decide upon its exact source, whether it is intra- or extra-uterine. But when placenta previa is excluded, careful examination will place all other forms of hemorrhage from the parturient canal, found at any time of the last two months of pregnancy before the end of the second stage, in one of the three following divisions: 1st, those caused by tearing of the lower uterine outlet; 2d, those due to wounds of the vagina or vulva; 3d, those from rupture of intra-uterine vessels of either the maternal or fetal systems.

1st. Bleeding from rupture of the cervix is frequent in primiparæ, in the muscular laboring women, in the neurotic, and when the tissues are manifestly diseased from pre-existing inflammation or cancer. Such bleeding is so common that it is considered by many to be natural to parturition, and the "show" is accepted as a sign of the actual onset of labor. But the amount of blood lost is trifling and its source self-evident. Nothing but the engagement of the child in the outlet can provoke it, barring, of course, improper fingering by the attendant.

<sup>1</sup> Read, in abstract, at Maine State Medical Society, June, 1888.

When, therefore, the "show" rises to the dignity of a hemorrhage, methodical investigation is required, and usually prompt emptying of the uterus is the first step in its arrest. After delivery, if the flow is not checked, it may be necessary to resort to active surgical helps which do not come into the scope of this paper.

2d. Hemorrhage from varix, thrombus, or other anomalies of the genitals is manifestly under the immediate sight, if properly directed. The treatment is first to complete the second stage, and then act in accordance with well-understood surgical rules.

These two classes of ante-partum hemorrhage are, therefore, plain in diagnosis and treatment, and may be thus briefly sketched. They will be met by the physician as he is influenced by special knowledge of these organs, or as he is wont to temporize, rather than to practise.

3d. The final division, hemorrhage before delivery due to intra-uterine causes, cannot be put aside so cursorily. The diagnosis is rarely absolute, the reason too often unsettled, and the treatment halts lamely upon inexperience or "the aid of nature." "A few write from personal observation, and these unite with one consent in stating how obscure are the signs, how embarrassing the diagnosis, how fatal the prognosis" (Goodell). A rare freak of labor, certainly! In 22,498 cases of labor at Guy's Hospital, "accidental hemorrhage" happened only three times; and in 156,000 cases at the Dublin Lying-in Hospital, not a single case was reported. Up to 1869, Goodell found only 106 reported cases, and after careful examination of the last four years' catalogues of the *Index Medicus*, I noticed only 3. Probably other instances are unrecorded, but careful inquiry among obstetricians of large practice fails to find more than two or three who have ever seen the accident. The literature also upon the subject is, with one noticeable exception, scanty. That one exception is pre-eminent for scholarship and completeness, and is an article by Goodell in the *AM. JOUR. OF OBSTETRICS* for September, 1869. It examines the entire subject, both of concealed and apparent hemorrhage from the gravid uterus, as it occurs during the last two months of pregnancy, summarizes 106 cases, and argues therefrom upon diagnosis, causation, and treatment.

In this admirable paper cases are separated into two grades :

the "franker," or more common and milder variety, in which the blood dissects down between the membranes and the womb, and appears at the outlet, and a severer form, where the outlet remains closed, and the blood is concealed within the cavity. Among several hundred deliveries, I have met with three cases of the milder variety of "accidental hemorrhage," and therefore can speak personally of that form. A short report of these will show their clinical features.

CASE I.—May 16th, 1880. Irish, 35, Xpara, strong and healthy; labor in progress through the day. Attended by a stupid compatriot. Was called because of the delay in delivery. Patient was found with extreme pallor and exhaustion, head low in pelvis, in third position, and a little blood was running from the uterus. Pains had been feeble for several hours, but while examining, a sudden contraction expelled a large still-born child. Placenta came away at once spontaneously with a quantity of large firm coagula. Firm manual compression caused good contractions, and the patient slowly rallied. It was found that there was an extensive rupture of the vessels of the cord at their juncture with the placenta, which break must have taken place *in utero*, since no traction was made by myself upon the cord. No cause for the flooding found, except the break in the cord mentioned.

The noticeable points in the history are ante-partum hemorrhage from rupture of cord-vessels, inertia, and shock from loss of blood. Patient multipara and child still-born.

CASE II.—Dec. 27th, 1886. French, 25, IIpara, healthy, previous labors normal. Flooding began at 10 A.M. while doing house-work; three attacks before I saw her at noon. Had fallen down a flight of stairs several days before without apparent serious injury, gestation otherwise normal, last menstruation April 6th, and connection after April 15th. At present in eighth month and first week of pregnancy. Apart from the flowing, the only complaint made was of flatulent colic. Put in bed at 2 P.M., with slight bleeding present. No wound of the canal found, cervix an inch long and open to the finger, head presenting. Child active and its heart sounds distinct, placental souffle at left fundus.

Induction of labor decided upon, for the following reasons: the bleeding was intra-uterine, and not due to placenta previa, hence most probably from premature detachment of the placenta; the quantity of blood lost negatived reliance upon ergot and rest in bed. The pelvis would offer no obstruction to delivery, judging from past labors; though the child was at present viable, its death was imminent unless the drain could be stopped;

the mother's condition good, and her consent readily given to operation.

Dilatation commenced with the finger and continued intervals for three hours, when the internal os opened, and head had descended to the outlet. Slight contractions were felt by the operator, though not by the patient. When woman was upon the left side, there was a little continuous flow, which stopped if she turned upon the back. After four hours the external os admitted two fingers, the head was fully engaged in superior strait, labor was in active progress. The membranes were then broken, but no water escaped until after the head was lifted, when a large quantity flowed out. No hemorrhage after rupture of the membranes, and pains stopped also. Patient slept two hours, all the time lying on the side. To arouse the uterus, quinine (grains x.) was given, but without much effect. General condition good, occasionally the outlet was stretched by the finger, for at no time did it seem to open naturally.

Finally after eight hours pains became energetic, even to extreme agony. Ether to full extent was given. cervix pulled over the caput, and child born with five or six pains. Cord around the neck loosely, third stage perfectly normal. placenta expelled spontaneously. Child hardly fully grown, skin wrinkled, weight eight pounds, cried lustily, and is now (six months afterwards) strong and well. The placenta was large, fully one-quarter had been torn off from its site ante partum, and upon this side was a thick firm clot. Flooding threatened after delivery of the secundines, but was prevented by steady compression. Lying-in was perfectly normal.

Interesting points in this case are, a fall before the flooding, flatulent colic coincident, the effect of puncturing the sac upon the hemorrhage, the ease with which labor was induced—the method being that advocated before this Society in 1883 by our venerable associate, Dr. Burbank—the stubborn inflexibility of the uterine outlet which persisted to the last. The case is apparently one of typical “accidental hemorrhage.”

CASE III.—January 17th, 1888. Irish, 30, IVpara, strong and well, gestation natural; in active house-work up to labor. Pains began in morning. Sac ruptured at 7 p.m., just as I was summoned; waters abundant; pelvis and canal ample; uterine outlet wide open, cephalic presentation; pains feeble: no fetal nor placental pulsations. Uterus appeared to be in two parts on left side, where a deep groove could be seen and felt in it. Soon after the sac broke, blood began to trickle out of the womb, and the flow increased to be quite a stream. No apparent reason for this hemorrhage, nor had the cervix been injured in the examination. Changing from left side to back lessened the flow, but increased the pains; the patient, however, refused to remain in



the dorsal posture because of the increased discomfort. The condition then was as follows: a roomy pelvis and canal in a multipara, os fully dilated, pains ineffective, head engaged, probably a dead child, and an increasing uterine hemorrhage. Simpson's forceps were immediately applied at the superior strait, and head drawn in the cavity, contractions were increased, and head delivered unaided, with two or three pains. Child dead, weight ten pounds, cord twined closely about the neck, where it had made a deep crease. Third stage normal, placenta expelled spontaneously, a thick, dark clot covered its outer quadrant, and a handful of soft coagula were removed with it. The lying-in undisturbed. Patient said that, of the four pregnancies, the two first children were still-born.

Here are the following interesting points: Ante-partum hemorrhage and feeble contractions in second stage without evident reason, irregularity in uterine contour, coincidence between hemorrhage and position of patient (as in second case), and strangulation of child by torsion of cord about its neck.

The symptoms of "accidental" and "concealed hemorrhage" are admirably given in Goodell's paper before referred to. Analysis of the cases therein gives as the chief symptoms, collapse, pain in every degree, extreme feebleness of uterine action, absence of fetal sounds and movements, marked distention of the womb, and proves that the diagnosis is affirmed by a show of blood, and emphasized by a serous discharge (from serum squeezed out of blood-clots). This list includes symptoms peculiar to both grades of the accident, and comparison of my own cases shows a decided agreement with them.

I. The patients were all multipara, which agrees with the common experience. In sixty-four cases noted, only eight were primipara. The more the muscles specially involved in gestation are stretched in successive pregnancies, so much the more is this variety of flooding found to occur. II. The powers of the womb for normal work were injuriously weakened in all these cases (Case I., unusual feebleness of labor pains; Case II., entire cessation of contractions for two hours after membranes ruptured; Case III., inertia in second stage, and forceps required). III. One woman had the unsymmetrical tumor of the womb that points to disturbed muscular co-ordination, and perhaps also to a localized effusion. In each case, there was the peculiar tension and sensitiveness of the womb referred to by Goodell and others. IV. The effect upon the flowing produced by rupture of the sac was

marked in the only case where it was possible to observe it. The firmer parts of the child are plainly a better tampon against the leaky vessels than the fluid of the amnion. Goodell says: "In the franker forms of accidental hemorrhage" (when the blood escapes at the os), "by an early evacuation of the waters, the hemorrhagic area is rapidly diminished." V. Notice the large fetal mortality. The one child born living was saved only by direct interference with the helplessness of Nature. Desmond is quoted as saying: "All cases proved fatal except those in which uterine action was present, and the contents speedily evacuated, either by art or Nature, while there is a trifling ratio in favor of those where the hemorrhage occurred externally." "Of 106 cases of all grades of severity, 54 mothers died; of 107 children, 101 died. Death terminated almost every case in which suffering from pain was either absent or not a prominent symptom" (Goodell). VI. While there may not be any other relation than coincidence between ante-partum hemorrhage and the posture of the woman in labor, yet in two of my cases this association was an undoubted fact. When upon the back, there was little flowing, but greater pains; on the contrary, if upon the side, pains were less, but flowing prominent. Accepting the common physiology of labor, it is easy to account for differences in pain (*i. e.*, contractile pain) according to the position assumed in the second stage. For the variation in the amount of blood lost, a rational explanation would be this: the abdominal muscles act presumably less effectively when the lateral posture is taken; there is then less compression of the parts inclosed against the firmer post-abdominal fascia, bones, etc., hence less intra-uterine pressure and feebler hemostatic results. Change to the dorsal position reverses these conditions, and the result is more active contractions, but less bleeding. VII. And the flooding itself, being unexpected and unnatural, thereby called attention to its significance. It was continuous, not in spurts as in placenta previa, and in this respect was diagnostic of "accidental" rather than "unavoidable hemorrhage."

The clinical history of these united cases confirms Lusk's words upon the symptoms of this disaster: "an alarming state of collapse, pains often excessive, absence or extreme feebleness of the pains of labor, marked distention of the uterus, sometimes a lateral bulging of the uterine walls, a serous dis-

charge, a show of blood, and blood in the liquor amnii" (page 566).

It is impossible to give, except in general terms, an explanation for the ultimate cause of too hasty placental separation. The mechanical theory of Baudelocque, or later the opinion of Barnes, that hemorrhage is the origin of the process, will account for the fact. Hart says that the separation in the third stage of ordinary labor is just as in placenta previa—not from diminution of the placental site, but during the expansion in area of this site after retraction. Besides, when the placental site increases in area after retraction, the placenta does not increase in like proportion, but remains smaller than it, owing to the interference in the maternal and fetal parts of the placenta (*British Gyneco. Jour.*, Nov., 1887). While physical causes undoubtedly provoke the disaster, yet it is just as certain that in some unknown manner mental states may also do so. Any condition, be it abstract or material, which is a possible excitomotor to the gravid uterus, may start a hemorrhage that ends only in the death of child and parent. The following reasons are recorded for the "placental apoplexy": violent anger, facial neuralgia with vomiting, pumping water, being thrown down in a quarrel, straining at stool, hemorrhagic diathesis, great fatigue, drinking and carousing, getting into a deep bathtub, washing clothes, violent coitus, sleigh riding through deep "pitches," external compression of the uterus (in labor) by midwife, accident with slight momentary shock, a fall downstairs. One other cause, I believe, should be accepted, that is, a short funis. I found in one hundred and thirty-six cases at term the cord twenty-one times either naturally short (that is, short enough to materially delay birth), or artificially so by being twined around some part of the child. Though of common occurrence and generally of little importance, this brevity of the cord may handicap the child, imperil the placenta, and even be a direct source of death. The danger is that the descent of the child may make traction enough upon the cord to break its vessels, either in continuity or at their divergence upon the placenta (see my own case, and also case of Hamil, in Phila. Obst. Soc., reported April 5th, 1888). The placenta also may be pulled away from its attachment (which appears to be the most usual effect of such traction), when even a relatively small quantity of blood effused between the two decidue is fully

able to induce contractions that will be fatal to the continuance of gestation. In such cases the result is disastrous, "the mortality far exceeding placenta previa" (Goodell). Of my own cases, the one who received the fall had the cord loosely about the neck, in another it was around the neck and tight enough to kill by strangling, and the third had broken cord-vessels, from probable intra-uterine traction.

The diagnosis of "accidental hemorrhage" of the gravid uterus has been so often anticipated in the preceding pages that only a summary upon that point is necessary. If blood flows from the uterus before the end of the first stage, and placenta previa can be excluded, it may be believed with tolerable certainty that the cause is a premature separation of the placenta, that being the part most commonly found at fault in recorded cases. I do not believe it possible, *before* delivery, to fix upon the special organ or tissue (placenta, cord, etc.) disturbed nor do I see what advantage could be gained thereby. If there is no blood visible, but the patient at the time specified is in such a condition as has been mentioned under the symptoms, "concealed" hemorrhage may be confidently inferred. The crucial test is puncture of the membranes. In either of the two forms of the accident, "apparent" or "concealed," if injury or mental strain can be assured to have preceded the flooding and the patient has already borne children, the diagnosis is much clearer. It has been shown from clinical experience that rupture of the uterus, which has many symptoms in common with "accidental hemorrhage," takes place after escape of the waters—a point to be weighed in the decision.

The prognosis is self-evident. Always a cause of anxiety to the physician, there is hardly any condition of the pregnant woman so dangerous to herself as ante-partum hemorrhage. If the blood shows itself externally, and the diagnosis is thereby made plainer, the mother's chances are somewhat better. But in either mild or grave variety, it is the rare exception for the child to be born alive, under any plan of treatment.

If in no other phase of dystocia, here at least there should be no question as to the practice. The end to be desired is delivery at the earliest moment that it can be safely effected to the mother. The vaunted powers of nature are unreliable for this purpose, and just here art is Nature's mistress. If the patient is not in

labor and the cervix unopened, it should be dilated, preferably by the finger. The membranes should be broken and the waters evacuated early, then forceps or version used as soon as the outlet will permit. The benefits of anesthesia in allaying shock and as a uterine regulator ought not to be denied, and the A. C. E. mixture is peculiarly acceptable. Before the end of the second stage, ergot is contra indicated, because the womb is not in a condition to respond to it. Afterwards it may be needed, and then is best used hypodermatically.

99 FREE STREET.

---

## DOUBLE OVARIOTOMY DURING PREGNANCY; SUBSEQUENT DELIVERY AT TERM.<sup>1</sup>

BY

WILLIAM WARREN POTTER, M.D.,  
Buffalo, N. Y.

---

It is no longer pertinent to seek the ear of skilled ovariologists with reports of simple cases. I should not attempt to transgress the bounds of ordinary propriety on an occasion like this, by committing such an outrage upon time and patience, not to say common decency. Believing, however, that the case I have to report has sufficient interest outside of the ordinary to warrant the appropriation of a part of your valuable time, I present it to you as briefly as may be.

On the 27th day of March, in the present year, I was invited by Dr. C. W. Gould, of Buffalo, to see Mrs. K., residing at No. — Michigan street, near his residence.

Personal history: Age 26, nativity German, color white, married nine years, has four children, oldest eight years, youngest two years and four months.

Physical examination: She was enormously distended in the abdomen, the girth at the umbilicus being fifty inches. There was some fluctuation, indicating free fluid in the abdominal cavity. In the left lumbar region was a hardened mass, and percussion in the epigastric region gave a clear note. In the erect posture the abdomen was pendulous, hanging over the pubic arch much as a snow drift hangs over the eaves of a house. The

<sup>1</sup> Read before the American Association of Obstetricians and Gynecologists, at its Annual Meeting, in Washington, D.C., Sept. 18th 1888.

uterus was high up, the cervix soft, and there was so much impaction in the pelvic cavity that intelligent bimanual palpation was of very little avail. She was unable to sit up by reason of the great oppression from the distention of the abdomen. Her urine was scanty, but otherwise normal. She had been tapped by Dr. Hofmeier, on August 24th, 1884, about six months after her third confinement, when, to use her words, "A pail and a half of water was drawn." She menstruated last on the 17th of November, 1887. Dr. Gould's diagnosis, made in the morning of the day of this visit (which was the first time that he had seen the patient) was an ovarian cyst, complicated with pregnancy. My examination only served to confirm his opinion, and it was determined, in view of the urgency of the symptoms, to make an early operation.

March 30th. Ovariectomy at 12 o'clock noon: Present, Drs. C. W. Gould, R. L. Banta, B. H. Daggett, H. Woodbury, F. H. Potter, and medical students Widner and Kimpton.

An exploratory incision, two inches in length, was made midway between the umbilicus and pubic arch, and, the walls of the abdomen being thin, the peritoneum was quickly reached and opened, whereupon two quarts of free ascitic fluid escaped.

The cyst was found to involve the left ovary and was extensively adherent in all directions. The fluid part of the cyst was drawn by trocar, when twelve quarts of water escaped. The solid part, that weighed ten pounds, could not be delivered from the opening until it had been enlarged to four and a half inches. The pedicle was broad and short. I partly enucleated the cyst, then transfixed and tied the pedicle with No. 4 Chinese silk, employing the Bantock knot.

After the removal of the left tumor, the right ovary was sought and found to be cystic; when it was tapped and about one and a half pints of fluid drawn. Its pedicle was transfixed in the same manner as the other, and both pedicles dropped. There was a very little hemorrhage, even though the adhesions were extensive, some of which I tied with catgut.

The toilet of the peritoneum was carefully and quickly made, and the incision closed with nine silk worm-gut sutures, care being taken to include the tendinous aponeurosis of the abdominal muscles. The dressing was completed by iodol dusted over the line of the incision, several layers of antiseptic gauze, a thick layer of borated cotton, and a flannel bandage over all.

During the course of the operation, a good opportunity was afforded to examine the womb itself, which could plainly be seen by all present, and was apparently the ordinary size of a gravid uterus at four months. It was disturbed as little as possible in making the toilet of the peritoneum, and, indeed, in all the manipulations incident to the operation.

She rallied quickly from the anesthetic, and was perfectly conscious in a few moments after she was removed from the table to the bed.



Time of operation, one hour and five minutes. Weight of tumors, thirty-eight pounds.

The pulse and temperature varied between 100 and 120, and 100° and 103°, respectively, during the first ten days, due apparently to intestinal distention and vomiting; after that both gradually dropped to normal.

On the twelfth day the abdominal dressings were removed for the first time, when the nine silk worm-gut sutures were cut away, and union by adhesion was found throughout the whole track of the incision. There was not the slightest surgical odor to either the dressing or the sutures. On the morning of the 6th of April, there occurred regular uterine contractions, accompanied by the ordinary intermittent pain which indicated the threatening of miscarriage, but she was given full enemata of opium during the day, and by night the pain and contractions had entirely ceased, there being no further threatenings during the progress of the case in the direction named. The gaseous distention referred to was the only source of discomfort during this whole process, and to it was undoubtedly attributable the rise of temperature as indicated by the record.

This annoyance was greatest about the fourth day, but finally the gas passed in great volumes both by the mouth and by the rectum, after which she became comfortable, and made no further complaint of any kind during the whole progress of the case. She was allowed to sit up on the twentieth day, and soon began to walk around and resume the usual household duties pertaining to her walk in life.

She continued in perfect health and comfort up to the day of her confinement, which occurred on the 28th day of August, when she was delivered of a male child, weighing seven and one-half pounds, after a perfectly normal labor, and the puerperium was likewise normal in every way.

I have been somewhat minute in some of the details of the case, omitting, however, much that possessed no especial interest.

Ovariectomy has been performed successfully during pregnancy so many times that there is nothing particularly novel in that condition alone; but I am unable to discover, in the searches of the literature that I have made, a single reported case of a *double ovariectomy* performed *during pregnancy*, in this country, where the patient *went to full term* and was delivered of a living child.

Dr. Mundé reports a successful case of double ovariectomy during pregnancy in the *AMERICAN JOURNAL OF OBSTETRICS* for July, 1887, but this case did not go to full term.

Dr. E. E. Montgomery, one of the Fellows of this Association, reports in the *Medical Register*, April 28th, 1888, a double oöphorectomy done by him at the third month of pregnancy. I am unable to state whether the woman reached the completion of pregnancy.

In the *Archives of Gynecology*, May, 1888 (from the *Med. News*), Dr. W. Gardner reports a case, where he made double oöphorectomy and the woman was delivered eight months afterwards of a living child.

There have undoubtedly been other cases of double ovariectomy or oöphorectomy during pregnancy reported in our own country which I have not observed.

Mr. Knowsley Thornton reports a successful case of removal of both ovaries during pregnancy, in the *London Obstetrical Transactions* for 1886. His case fell in labor, and was delivered of a living child at about the end of the eighth month. Four months afterwards this patient reported to him in good health, and still nursing a fine healthy infant. This is the first case reported of the kind that I have been able to discover, but even his case did not go the full period of gestation.

I am informed that Dr. Vander Veer, one of the Fellows of this Association, has recently successfully removed both ovaries during pregnancy, and he may also be able to report that his patient went to full term.

It would seem that the case which I have presented possesses an especial interest in showing that the removal of the appendages exercised no influence, as far as can be discovered, on the performance of the healthy functions of gestation and final delivery; but, on the contrary, my patient has not been in as good health as now for several years past. She continues to nurse her child with a full supply of milk, and presents no extraordinary conditions of any kind that are apparent upon the closest scrutiny.

I cannot close this paper in any more suitable way than to quote Mr. Thornton's final words, when he reported his case to the *London Obstetrical Society*, viz. :

"I have thought it well to place a full record of the case before this Society [Association], and I await with much interest the views of the Fellows upon the curious physiological and pathological problems which it suggests."

## PROCEEDINGS OF THE AMERICAN GYNECOLOGICAL SOCIETY.

---

REPORTED BY

FRANK H. INGRAM, M.D.,

New York.

---

The Thirteenth Annual Meeting of the American Gynecological Society was held in the Columbian University, Washington, D. C., on September 18th, 19th, and 20th, 1888.

### *Opening Session.*

The meeting was called to order by the president, DR. ROBERT BATTEY, of Georgia.

After the roll-call, the following gentlemen were asked to take part in the proceedings of the Society as

### INVITED GUESTS.

Sir Spencer Wells, Bar't, Dr. Graily Hewitt and Dr. Priestly, London, England; Dr. J. C. Cameron, Dr. J. W. Rosebrugh, Dr. N. Lincoln Macphatter, Dr. Henry Howitt, Dr. Jas. F. Ross and Dr. Angus Mackennon, Dr. T. Johnson Alloway, Canada; Dr. Henry T. Byford and Dr. W. W. Jaggard, Illinois; Dr. H. C. Coe, Dr. J. Duncan Emmet, Dr. Sherman Van Ness and Dr. W. E. Ford, New York; Dr. Joseph Eastman and Dr. W. O. Brestby, Indiana; Dr. Mitchell, South Carolina; Dr. A. B. Carpenter, Ohio; Dr. R. M. O'Riley, U. S. Army; Dr. N. S. Lincoln, Dr. G. L. Magmihn, Dr. P. J. Murphy, Dr. G. W. Johnston, Dr. H. H. Barker, Dr. J. J. Sumner, Dr. M. F. Cuthbert, Dr. George Boyd Harrison, Dr. C. H. A. Kleinschmidt, Dr. L. S. Adams, Dr. Thomas C. Smith, Dr. J. M. Toner, Dr. George C. Ober, Dr. J. R. Burwell and Dr. C. E. Hagner, Washington.

The Society reconsidered its vote of a year ago, in which it was decided not to unite with the Congress of American Physicians, and Dr. Fordyce Barker was appointed to represent the Society in the Executive Committee of the Congress.

DR. SAMUEL C. BUSEY, of Washington, delivered

### THE ADDRESS OF WELCOME.

DR. HOWARD A. KELLY, of Philadelphia, read a paper on

### PALPATION OF THE URETERS IN THE FEMALE.

Dr. Kelly stated that, in employing palpation of the ureters, the gynecologist has at command a new and valuable adjuvant in the

correct diagnosis of renal and bladder diseases and their sequelæ, as well as the possibility of recognizing intrinsic disease of the ureters themselves, hitherto only discovered on the post-mortem table. Not infrequently the condition of the ureters may be the first clear point in determining the exact nature of disease of the kidneys. In inflammatory disease of the bladder, the morbid processes travel upwards, so that the ureters are affected before there is evidence from the kidney that the disease is advancing. The lodgment of calculi in the ureters can, in time, be detected by palpation, leaving no room for doubt as to the diagnosis of a condition which may be suspected.

Different methods have been proposed for determining the condition of the ureters, viz., inspection, catheterization, and palpation. The first two of these, according to the procedures recommended, necessitated cutting into the bladder, in order that the finger might be introduced to feel the ureters through the walls of the bladder, or to enable the finger to guide the catheter to the openings of the ureters. Palpation offers a simple means of arriving at the same, or better results than these other methods, and it has the advantage of dispensing with cutting instruments.

The following is Dr. Kelly's method of palpating the ureters in the female :

The patient is placed in the dorsal position, the legs strongly flexed on the abdomen, a Simon's or Sims' speculum retracting the vaginal wall. The eye at once observes a series of divergent folds, starting just back of the neck of the bladder and passing laterally and back toward the cervix uteri, corresponding very closely at their point of union to the inter-ureteric ligament, and following the course of the ureters. A delicate catheter is then carried into the bladder, poised between the thumb and index finger, and the position of the end of the catheter is plainly noted by the eye observing its movements, as the point of the instrument sweeps gently along the floor of the bladder. The ureteral orifice is to be sought for about one inch back of the neck of the bladder and three quarters of an inch from the median line. This position of the ureter is not constant, and cannot be relied upon alone ; far more characteristic is the tripping of the point of the catheter as it glides over the orifice of the ureter. As soon as this tripping is felt, the catheter should be slightly withdrawn and then gently pushed into the orifice. But little force is required to make the instrument follow in the canal of the ureter ; but under no condition should the point of the catheter be pushed beyond the brim of the pelvis, and care should be exercised in order to avoid the possibility of making false pockets in the ureter. The stop of the catheter may then be removed, and the small amount of urine which escapes can be examined. The catheter may be withdrawn and the ureters can be felt by passing the finger into the vagina, displacing the vagina, and pressing against the pelvic wall ; or, two fingers, one

of each hand, may be passed into the vagina and the ureters compressed between them.

In some conditions, the ureters are particularly distinct, especially so in pregnancy. It is, however, to be kept in mind the possibility of mistaking other anatomical parts for the ureters; the most common of these are the obturator artery, the obturator nerve, the upper margin of the obturator foramen, the line of origin of the levator ani muscle, and, sometimes, the genito-crural nerve.

Dr. Kelly stated that it is his practice to examine the ureters in all gynecological cases coming to him. He felt that it is imperative on the part of the gynecologist to avoid the possibility of erring in diagnosis, and cited three cases of ureteritis in which it had been supposed that only disease of the bladder existed, and in which palpation of the ureters subsequently served to detect the lesion.

#### DISCUSSION.

DR. WM. POLK, of New York.—As far back as 1875, the attention of gynecologists was called to the importance of sounding the ureters in cases of suspected bladder or renal disease, but there had been so much difficulty experienced in finding the ureters that the progress made in treating disease of the ureters and of the pelvis of the kidney had been necessarily slow. The employment of Emmet's method of button-holing the bladder obviates any difficulty in the way of mistaking the orifice of the ureter, and is not an operation attended by much, if any, danger. It is comparatively easy to recognize the distended ureters by palpating between the line of the ureters and the brim of the pelvis through the rectum; and, while it is not difficult to compress the ureter between the instrument passed through the bladder and the finger in the rectum, it is by no means easy to maintain this pressure for a sufficient time. The catheter should have a proper curve to make the examination successful, and the old-fashioned one with a broad curve is as good, if not better, than many of the instruments of more recent design. The method of employing catheterization of the ureters must be left to the judgment of the physician. In competent hands, either Emmet's or Pawlik's method will be successful.

DR. HENRY T. BYFORD, of Chicago.—In one hundred cases of palpation of the ureters for practice, the following method of catheterization had been found simpler than any of the others recommended: Take the uterus as a centre, and introduce the index finger into the vagina up towards the pelvic roof. The tactile sense at once recognizes the resisting ureter, the inter-uterine ligament is found, and then, by manipulation, the catheter is made to enter the orifice of the ureter.

DR. W. H. BAKER, of Boston.—It must be borne in mind that malposition of the ureters occasionally exists, and that, when such is the case, simple catheterization and palpation will

result in failure. Anomalies cannot be detected with certainty unless the cutting operation is employed. In one case it had been found necessary to dissect out the ureter in order to secure a proper discharge into the bladder, and this procedure was followed by the early recovery of the patient.

DR. H. C. COE, of New York.—In three cases in which the ureters were compressed by cicatricial matter, palpation and catheterization of the ureters afforded great relief. This would tend to show that, as an element in the treatment of certain conditions, as well as a means for insuring greater accuracy in diagnosis, palpation of the ureters offers a field for extensive investigation.

DR. BACHE EMMET, of New York.—It is well to practise inspection from the first, in order to avoid bad results from the disease; and the side from which any discharge comes should be watched with the greatest possible care. While disease may do but little harm, and inspection or catheterization not really necessary, it is best to be on the safe side, especially as the operation for inspection is attended by practically no danger. Catheterization of the ureters should not be employed until diseases other than those of the ureters or pelvis of the kidney have been excluded.

DR. HOWARD A. KELLY, of Philadelphia.—An analysis of many cases of ovariectomy shows that, in many of them, there is either compression of the ureters or a co-existent ureteral disease; and the knowledge of this justifies the employment of palpation as a means for determining the extent of disease. The method recommended had been found to be the surest for finding the ureters. By catheterization and palpation, we have a means for diagnosing and treating certain diseases; and we should welcome any investigation which would tend to shed light upon this subject.

#### THE CAUSE AND TREATMENT OF URETHROCELE,

by DR. THOMAS ADDIS EMMET, of New York, was read by Dr. J. Duncan Emmet, of New York.

Dr. Emmet stated that the common belief that urethrocele results from want of support on the part of the tissues is incorrect, and not justified by careful observation. Where there is extensive laceration of the cervix uteri, urethrocele nearly always exists, and the commonest causes of this condition are the following: 1. Rapid labors, with few but very powerful pains. 2. Tedious labors induced by faulty administration of ergot, or tedious labors in which forceps have been used. Damage to the urethra at its lower part may occur, but the portion under the pubic arch is protected by a closer attachment of the mucous membrane. The female has no sphincter, properly so-called, at the mouth of the bladder. A distended bladder retards labor, and if instruments are then used, lacerations may occur, but a small amount of urine in the bladder may act as a cushion to



protect the parts subjected to compression by the advancing head of the child. After the head has reached the vaginal outlet, the soft parts are pushed before it; and when the occiput passes under the arch of the pubis, partial displacement of the soft parts may take place along the lower part of the urethra. Should natural processes of repair of injury to the soft parts be arrested, urethrocele may result. The term urethrocele should not be used unless there has been an injury. In true urethrocele, the canal is sacculated and shortened, but not necessarily pendulous.

The writer referred to the many operations for the cure of urethrocele, and stated that his experience had convinced him that the best of these is the "button-hole" operation, which is described in his treatise on gynecology.

#### DISCUSSION.

DR. PRIESTLY, of London.—In a paper on cyst formations, published in the *British Medical Journal*, several years ago, attention was directed to the sacculation of the urethra which is so often found. Wherever there are sebaceous follicles, sebaceous cysts may form after an injury. In a case of urethrocele, recently under observation, a large quantity of sebaceous matter was passed. One physician had described this case as one of a sebaceous cyst of the ovary, which had descended into the bladder.

DR. A. J. C. SKENE, of Brooklyn.—It is confusing to class under the head of urethrocele two very different conditions, namely, dislocation and sacculation of the urethra. The pathology of dislocation of the urethra is not the same as that of sacculation of the urethra. The lower part of the urethra is not necessarily affected in downward dislocation. Complete dislocation is the common form, and is an injury of itself. Contusions may be regarded as transverse lacerations of the urethra—a condition never observed in a large experience with such cases. Emmet's operation is good in cases of sacculation of the urethra. Dr. Bozeman, ten or fifteen years ago, in the *AMERICAN JOURNAL OF OBSTETRICS*, defined the pathology of dilatation of the urethra, and there advised the opening of the urethra as a means of treatment.

DR. WILLIAM T. LUSK, of New York.—Emmet's operation is good, and is to be recommended. In many cases it had performed really wonderful cures.

DR. HOWARD A. KELLY, of Philadelphia.—Error in making the diagnosis may lead the observer to work at a disadvantage. The sub-urethral tubercle can be readily mistaken for urethrocele. The writings of Skene Keith, in the *Edinburgh Medical Journal*, are deserving the most careful perusal.

DR. J. DUNCAN EMMET.—There is a decided difference between sebaceous dilatation, which had been referred to by Dr. Priestly, and urethrocele. The good results attained by Em-

met's operation entitle it to a trial. When relief is secured by an operation, the trouble does not return.

DR. R. STANBURY SUTTON, of Pittsburgh, read a paper entitled :

#### THE TREATMENT OF PELVIC ABSCESS.

Dr. Sutton said that he had decided to speak of only those forms of pelvic abscess which follow pelvic cellulitis—a disease very common in women, and not confined to puerperal troubles. Abscess is not the usual termination of pelvic cellulitis, because the disease has two forms, the septic and aseptic, the latter being the more frequent. Parametritis may be occasioned by gonorrheal infection, producing, in its course, a suppurative salpingitis. A dirty finger or a foul discharge after labor, may cause septic matter to produce a lymphangitis, phlebitis, or cellulitis. Contiguity of the surfaces of tissue may alone cause the extension of disease. We are compelled to call many of the cases idiopathic, because we cannot trace their septic origin, and to speak of them as resulting from "taking cold." In virgins and in women who have passed the menopause, the disease must be idiopathic.

In treating septic pelvic cellulitis, the antiseptic douche and doses of opium may be of great service. An early blister or ice-bag over the abdomen, enemata of hot soap-suds, and poultices are also of value. The internal administration of anti-febrile doses of sulphate of quinine and doses of sulphate of magnesia may be employed if indicated by the symptoms. When pus is discovered the sac should be opened by means of a long, covered trocar, and drainage should be maintained by a male catheter. The vagina is to be preferred as a route for the discharge of the pus, as in most cases of drainage through this channel recovery has followed. When sinuses communicating with the surface are established, the parts not necessary for drainage should be curetted and compressed. Dilatation of the sinus, the introduction of the catheter, and irrigation are necessary. There is some danger in permitting the discharge to take place through the rectum, owing to possible evil from gas or fecal matters. When the temperature of the patient is above the normal, acoholics, bitter tonics, and cod-liver oil may be employed with benefit, but preparations of iron are without value. The iodide of potassium may be given, after the discharge of pus had ceased.

#### DISCUSSION.

DR. WILLIAM GOODELL, of Philadelphia.—In a large number of cases of pelvic abscess, not one arose from gonorrhea. The disease usually comes from septic poisons, and does not develop where antiseptic precautions are taken. In virgins it is due to exposure to cold at the catamenial period. When pus can be felt through the vagina, an opening should be made and then dilated, and a drainage tube introduced. If there be a discharge

into the rectum, a curved probe should be inserted, felt through the vagina, cut down upon, and the fistula converted into a vaginal one. If the discharge is permitted to continue through the rectum, gases and fecal matter may get into the abscess. In a very small abscess, opening so high in the rectum that the point cannot be discovered, perform laparotomy, and guide into the abscess, *per vaginam*, scissors or director, and put in a drainage tube. In irrigating, use a solution of bichloride, except in cases of rectal fistulæ, where a solution of permanganate of potassium is to be preferred.

DR. PARRISH, of Philadelphia.—The aspirator should not be used in cases of pelvic abscess, except for the purpose of making a diagnosis, as it is never curative. An opening made by a knife is necessary to a proper treatment of the trouble. Hilton's method of opening the vagina, by making a superficial slit in the membrane, and then introducing a grooved director, dilating and irrigating, should be employed in abscesses low in the pelvis. Abscesses deep in the pelvis should be opened by the extra-peritoneal operation.

DR. T. GAILLARD THOMAS, of New York.—There are three forms of pelvic abscess, namely, inflammation of the cellular tissue between the layers of the broad ligaments; inflammation of the cellular tissue between the vagina and the posterior part of the uterus; and inflammation of the cellular tissue between the bladder and the uterus. The great diagnostic difference between a neoplasm and a pelvic abscess is, that the former is movable and the latter almost always immovable. Those pelvic abscesses which are posteriorly situated are sometimes very movable, and may be mistaken for fibroid tumors. Laparotomy is a hazardous operation, and may be avoided by making a vaginal outlet for the pus. Pus should be let out as soon as possible, and by either the vagina or through an opening in the abdominal wall—never through the rectum, as death is so liable to occur from fecal matter or gases getting into the abscess. A mass found, say a month after labor, should be explored, even though there be no fluctuation. Abscesses following parturition usually empty by the abdomen and progress rapidly, in which they differ from the other forms. If the abscess is anterior to the uterus, separate the anterior wall of the vagina from the uterus, make an opening, then dilate. If it be in the areolar tissue of the broad ligament, be sure to get behind the bladder; make a large opening, by gnawing the tissues with a pair of curved scissors; dilate with Goodell's dilator; insert a flattened, stiff rubber tube as far as it will go into the abscess; cut off and split the lower part of this tube, and stitch the two lips to the vaginal wall; wash out with a bichloride solution. Redness of the abdominal wall and tenderness on pressure announce the existence of an abscess united to the abdominal wall. In such a case the opening should be made at the seat of tenderness, but in all other cases it should be made on the line of Poupart's ligament.

Laparotomy is occasionally justifiable. In making an opening for an abscess to discharge through the abdominal wall, avoid the median line.

DR. W. GILL WYLIE, of New York.—Cellulitis is supposed to play a too prominent part in the etiology of pelvic abscess. Abscesses are not, as a rule, in the cellular tissue, but are the sequelæ of salpingitis and ovaritis. The proper procedure is to open the abdomen and enucleate the *centre* of the disease—the ovary or tube—in order to see what can be done. If an outlet can safely be made through the vagina, make it; but it is sometimes best, even before opening the vagina, to make an exploratory abdominal opening for a guide. Aspiration of an abscess is dangerous, and there is record of two deaths resulting from this operation. An artery or ureter may be entered by the aspirator.

DR. WILLIAM POLK, of New York.—In one hundred cases of cellulitis, the pathological conditions which we are taught belong to that disease were not found. Pelvic inflammation is the direct product of tubal disease. A protecting lymph is thrown out ahead of the advancing pathological condition, so that there may be several small pus cavities. Laparotomy is the operation to be recommended.

DR. HOWARD A. KELLY, of Philadelphia.—Slitting the wall of the vagina, dilating the opening, and irrigating with bichloride solution appears to be the most rational method of treating pelvic abscess.

DR. A. W. JOHNSTONE, of Danville, Ky.—There is, in these cases, a violent inflammation of the connective tissue of the pelvis—an analogue of acute croupous pneumonia. Chronic cellulitis does not exist *per se*; the disease is in the epithelial tissues. The vast majority of cases of so-called chronic cellulitis are disease of the rete mucosum, or abscess.

DR. J. F. BALDY, of Louisville.—Cases arising from septic infection after confinement, or from exposure to cold, should be treated by abdominal section and removing the mass *in toto*.

DR. THAD. A. REAMY, of Cincinnati.—The brilliant results of abdominal surgery lead us to adopt it too often. When some other and simpler form of treatment is suitable, a hazardous operation should not be performed.

*Afternoon Session—First Day.*

SIR SPENCER WELLS, of London, England, read a very short paper entitled:

SECOND OVARIOTOMY ON THE SAME PATIENT.

He briefly described two cases in which the second ovariectomy had been performed several years after the first operation. There seemed to be no indication for the removal of both ovaries at the first operation in either case, but subsequent disease rendered a second operation necessary. The intra-peritoneal

ligatures used in the first operation were not found, in either case, at the time of the removal of the second ovary. A true second ovariectomy is the removal of the second ovary at a subsequent operation, such as was first performed by Ackley in 1861. A laparotomy may be called for, subsequent to an ovariectomy, by a badly diseased uterus or kidney, by hemorrhage, by an incomplete first operation, by growth of the remaining pedicle, or by the appearance of bad symptoms.

Sir Spencer Wells said that it is often a matter of great importance for the surgeon to decide whether to remove both ovaries at one operation, and thus, though slightly increasing the danger to the patient, render a second operation unnecessary. It has been his practice to remove the second ovary if it is positively diseased, but to leave it if healthy; and he felt less responsibility in removing it after the climacteric had been passed than in women who might bear children. A study of many ovariectomies teaches us that, after one ovary has been removed, the chances of the second ovary becoming diseased are not more than one in fifty. In one thousand ovariectomies there were two hundred and thirty-two deaths; many of the remaining seven hundred and sixty-eight patients lived past the child-bearing period unmarried; many others, though not married, remained in good health; one hundred and seventeen married after the operation, and gave birth to two hundred and twenty-eight children. Of all the cases in which an ovary was left, but twelve required a second ovariectomy, and only one patient died. These statistics would show that much good may result from conservative surgery, and that the surgeon is not justified in depriving a woman of the power of reproduction, unless there are especial indications for such measures.

#### DISCUSSION.

DR. T. GAILLARD THOMAS, of New York.—Unless there be good reasons to the contrary, the surgeon should remove both ovaries at the first operation. An experience has shown the liability to disease of the remaining ovary to be much greater than stated by Sir Spencer Wells. It is better to slightly increase the danger of the first operation than to risk a recurrence of disease, or to encounter in a second operation conditions resulting from a peritonitis, which might cause the operator to wound the intestines. In six cases of second ovariectomy, the ligatures used in the first operation were not found.

DR. WILLIAM GOODELL, of Philadelphia.—The sentiments expressed by Dr. Thomas may well be echoed. If the danger to the patient is not greatly increased, and any excuse exists, the second ovary should be removed, especially if the climacteric has been passed.

DR. JAMES B. HUNTER, of New York.—We have not had a sufficient experience in this class of cases to justify the rule to remove the second ovary. By leaving a healthy ovary, a woman

may give birth to children—a function which we should not unnecessarily destroy.

DR. HOWARD A. KELLY, of Philadelphia.—If the second ovary is to be of service, it should be left. Sir Spencer Wells has shown that one hundred and seventeen women bore two hundred and twenty-eight children, after one ovary had been removed. This is a large per cent of the seven hundred and sixty-eight survivors of the first operation, if we consider the many who passed the climacteric and did not marry, and also those who had not married, although still not past the child-bearing period of life. In the seven hundred and sixty-eight cases, but twelve second operations, resulting in only one death, were performed. One woman died, and two hundred and twenty-eight children were born—what stronger argument could there be in favor of leaving the second ovary?

SIR SPENCER WELLS.—Women often wish to be relieved of the trouble of bearing children, and will urge the removal of both ovaries as a matter of convenience to themselves. The surgeon should not grant such requests, and thus assume a grave moral responsibility, unless the physical indications for a double ovariectomy exist.

DR. WILLIAM T. LUSK, of New York, read a paper on

#### THE NEW CESAREAN SECTION.

Dr. Lusk said that he had been impressed with the great mortality of the cases of Cesarean section recorded several years ago, but had believed that there would be an advancement in that operation. There has been advancement, and the operation of Porro has been restricted and that of Säger adopted. In three cases in which he had recently performed Cesarean section, no good could have been obtained by resorting to craniotomy, and two mothers and two children were saved. The third child was alive when removed, but died of trismus, at the end of thirty-six hours. Cesarean section is allowable in flattened pelves, of two and a half inches conjugate diameter, not compensated by a long transverse diameter; in justo-minor pelves, when the diameter is only three inches, and natural labor is not possible; in cases in which craniotomy has been found necessary in previous labors. The operation should never be performed until after the engagement of the head has demonstrated the impossibility of a natural delivery.

Dr. Lusk said that the mortality in cases where the Cesarean section has been performed is about forty per cent, but that craniotomy has a much better showing, one observer having reported forty-two cases without a death. The selection of the proper operation for a given case must depend upon circumstances. When the facilities for performing Cesarean section are not the best, to attempt it is gambling with life. It should not be performed until it is assured that the fetus lives, and



then only when the operator has four competent assistants and a good nurse.

The following are the steps in performing Cesarean section:

After the abdominal incision has been made, the uterus is turned out of the abdominal cavity, and, as it emerges, is held in a warm, carbolized towel by an assistant. Catgut sutures are inserted and drawn to keep back the intestines, and a rubber ligature is placed loosely around the uterus. After section and the removal of the child and membranes, the ligature is tightened, the cavity washed out, and the sutures drawn. Introduce some ergot into the thigh, loosen the elastic ligature, and apply a compress. In favorable cases, the patient may sit up at the end of the third week.

Sänger's operation, under the most favorable circumstances, promises recovery; under ordinary circumstances, it is attempting a miracle.

#### DISCUSSION.

DR. HOWARD A. KELLY, of Philadelphia.—In two cases of Cesarean section, performed this year, the lives of the mothers were saved, but one child died of icterus at the end of the first week. One operation was performed under the most unfavorable circumstances, when the patient was in a state of collapse. In both cases there developed phlebitis, after fourteen days. In the other case, a utero-vaginal fistula remains, through which the menstrual discharge flows.

DR. HENRY J. GARRIGUES, of New York.—Of two cases in which Cesarean section was performed, one died. The operation, in order to be successful, should be performed only under the most favorable circumstances. In country practice, where many assistants are not available, craniotomy is to be preferred. As a suture, silk has advantages over catgut, on account of the ease with which it can be manipulated; if catgut is used, it must be of a particular kind. The abdominal wall is so elastic that it is not necessary to make a large incision, in order to turn out the uterus. The use of antiseptics and the suture account for the success of the Sänger operation. Dr. Garrigues' first operation had been put down as the third operation by Sänger's method, although performed before he had heard of Sänger.

DR. GEO. J. ENGELMANN, of St. Louis.—The bad record of the craniotomies performed in foreign countries may be attributed to the bad condition of the patients, many of them having lingered before being taken to the hospital.

DR. WILLIAM M. POLK, of New York.—In two cases in which Sänger's operation had been performed, the mothers died, one was in a moribund condition at the time of the operation. The operation does not seem to possess an advantage over craniotomy, so far as good results are concerned.

DR. LUSK.—The results of craniotomy are now almost perfect, so that the Cesarean section is justifiable only in extreme cases

of pelvic contraction, and in cases where the mother's chances are the best. The comparative dangers of Cesarean section and craniotomy should be brought plainly before the patient and her friends, and they should be allowed to decide in favor of the one or the other.

DR. T. GAILLARD THOMAS read a paper on

THE ETIOLOGY, PATHOLOGY, AND TREATMENT OF ANTEFLEXIONS  
OF THE UTERUS.

Dr. Thomas said that the present fashion in gynecology is to study only new things, but that he felt that a little light shed upon an old subject might be interesting or instructive. The subject of anteflexions is all the more important, as there have been recent improvements in the methods of treating the disease. He stated that he wished it to be distinctly understood that he would oppose some statements which he had formerly made and reiterated.

The following is his method of classifying anteflexions :

1. Corporeal anteflexion. 2. Cervical anteflexion. 3. Corporeo-cervical anteflexion. 4. Irreducible anteflexion. 5. Reducible anteflexion. Irreducible anteflexions are usually produced after about the tenth year of life, by tight lacing or by an habitually distended rectum ; they are the result of a long-continued pressure on an undeveloped uterus. Reducible anteflexions are usually produced by pressure on a developed uterus, although the displacing force may be disease or traction from a false membrane. A gradually produced anteflexion requires a treatment quite different from one that would be employed in the case of an anteflexion quickly following an injury. In the menstruating period of life, that is, from the fourteenth to the fiftieth year, anteflexion of the uterus is a grave disease, and, in any case, the prognosis should be a cautious one. Many cases are cured, many are relieved, and many are not benefited ; but neglect of any case is almost criminal. There is a great tendency to relapse ; and changes in the tissues of the flexed uterus, such as atrophy and fatty degeneration, are frequent and prevent recovery.

Dr. Thomas said that, in determining his method of treatment, the gynecologist should consider three important questions, as follows:

1. Should the case be treated to cure or only to relieve ? 2. Is the flexion so reducible as to offer hope of relief or recovery from the application of sound or pessary ; or does it require more heroic measures ? 3. Do the patient and her friends consent to the employment of heroic measures ? If a pessary is to be used, the selection of a proper one is a matter of great importance ; a Thomas', a Thomas' modification of Cutter's, or a Graily Hewitt's pessary may be recommended. In severe cases, an intra-vaginal pessary is necessary. When flexion has been corrected,

the parenchyma should be strengthened by good food, hypophosphites, and electricity. In some cases, it is necessary to dilate the cervical canal, and to introduce a glass stem. This is done by placing the patient in Sims' position, supporting the cervix by a tenaculum, and then introducing the stem and supporting it by a lever pessary with a cup. Glass stems are the best, on account of their superior cleanliness; and, in applying them, the most rigid antisepsis must be maintained. The stem may be left until after the first menstruation. Subsequent to the fitting of the pessary, a two-and-a-half per cent solution of carbolic acid is used to douche the vagina. Should the temperature rise above 102° F., the stem and pessary should be removed, and the vaginal douches pushed. The stem and pessary will be found to be useless in cases of true cervical ante flexion; posterior section may here be employed with benefit, but it is not always sufficient. In bad cases the pessary and stem, left in position for three months, is the best treatment. Amputation of the cervix is occasionally necessary.

Dr. Thomas stated that after operation conception may take place, if the stem and pessary have been used; if the divulsor and stem have been used, the chances of conception are fewer. He has seen but one case of conception after a true cervical ante flexion.

#### DISCUSSION.

DR. GRAILY HEWITT, of London.—Ante flexion of the uterus, as a rule, arises slowly, gradually becoming intensified, and occurs because the tissues of the uterus have lost their resisting power. The difference in degree of flexions is of great importance in deciding in regard to prognosis. Ante flexion of even small degree may produce sterility, or increase the tendency to abortion. Amputation of the cervix may do in some severe cases, but the operation of taking out a small piece of the posterior part of the cervix, and stitching the cervix to the vaginal wall is to be preferred. Conception may take place in some kinds of ante flexion.

DR. PRIESTLY, of London.—It is a question whether many of the symptoms supposed to be due to ante flexion of the uterus have any connection with that disorder. We need statistics to show how frequently ante flexions exist when certain symptoms are present, as well as statistics in regard to treatment directed to the symptoms alone. It may well be asked: Do active symptoms occur in simple ante flexion unless there be complications of an inflammatory nature? The tendency of Dr. Hewitt's teachings has been to raise a school which regards even hysteria of young women as indicative of uterine displacement.

DR. ELY VAN DE WARKER, of Syracuse.—It is pleasing to see that Dr. Thomas has changed his views in regard to the use of the intra-uterine stem, since he passed judgment on a paper presented by me ten years ago. The stem is not dangerous if properly employed. There are always active symptoms in ante-

flexions of the uterus, though they may vary in kind and in degree of severity. Hysteria invariably attends certain forms of antelexions.

DR. H. P. C. WILSON, of Baltimore.—Anteflexion of the uterus rarely, if ever, occurs suddenly; it is a progressive disease, and is usually found in young women. The most common cause is constipation; a predisposing cause is the over-education of girls—the weakening of the system by crowding the studies to such an extent that a girl of eighteen can enter society with a liberal education. Pessaries are not of benefit in antelexion, because of the crooked growth of the uterus which cannot be overcome. Sims' old operation is the best plan of treatment; and conception occurs in a large percentage of the cases in which it is employed.

DR. BACHE EMMET, of New York.—Active symptoms seldom attend antelexion of the uterus. When present, they usually are not to be attributed to the displacement, but rather to some co-existing disease.

DR. WILLIAM GOODELL, of Philadelphia.—Anteflexion of the uterus *per se* has not symptoms, except they be reflex ones due to existing dysmenorrhea or sterility; and when there is dysmenorrhea, it is produced by disease of the lining membranes of the uterus, which owes its origin to efforts to expel the menstrual flow. In case of dysmenorrhea, the cervix uteri should be dilated; but it is unnecessary to attempt to rectify an antelexion, even though there be dysmenorrhea and sterility. If pregnancy does not cure the dysmenorrhea, special treatment is necessary; and, in all cases, nervous symptoms call for remedial measures.

DR. W. GILL WY. IE, of New York.—It is best to regard all antelexions as cases of imperfect development of the uterus; a purely mechanical displacement cannot be considered a disease. The pessary is valuable as a palliative measure; the stem accomplishes good through dilating and securing better drainage, but it is dangerous.

DR. THOMAS.—In reply to Dr. Van de Warker's allusion to a change of views, it can only be said that the knowledge gained by an increased experience is responsible for the departure from the position formerly held in regard to the use of the intra-uterine stem. The views expressed in the paper represent what has been gained by an extended observation of antelexions of the uterus.

*Second Day—Morning Session.*

DR. THAD. A. REAMY read a paper entitled

HIGH AMPUTATION OF THE UTERUS FOR CANCER.

Dr. Reamy stated that he had selected, as a basis for his report, fifty-seven cases in which he had performed high amputation for cancer of the uterus. These represented but a small portion of the many which had come under his observation in

hospital and private practice, but they had been chosen because they were cases in which the disease had not extended beyond the cervix. Of the fifty-seven patients operated on, two died, one in two, and one in four days after the operation; in twenty-nine there was a recurrence of the disease, after periods ranging from one to fourteen years; in twenty-six the disease had shown no sign of a recurrence, after periods ranging from one to fifteen years. Many of the cases met in hospital practice are far advanced in the disease before they seek the services of the surgeon, and the operation is, consequently, more extensive and attended by greater danger than when an early diagnosis has been made and early treatment employed. In some cases caustics may be used with benefit, but high amputation is necessary to remove an extensive disease.

Dr. Reamy stated that a patient may die of uterine cancer without the disease extending beyond the cervix; the involvement of the corpus uteri is not necessary to a fatal issue. Cancer follows the squamous epithelium of the vagina before it invades the canal of the cervix. This fact should be borne in mind when operating, and as much of the cervix as can be left without danger should be spared. The internal os uteri should always be left, if it is not involved in the diseased processes. In performing an operation, the posterior parts, which are the more dangerous if left, should be removed more extensively. Amputation of the cervix is to be preferred to removal of the entire uterus, in that the operation is simpler and is attended by as good, if not better, results.

#### DISCUSSION.

DR. BAKER, of Boston.—High amputation of the cervix is the best operation for the removal of uterine cancer, unless the body of the uterus is involved. A good operation is to remove a cone-shaped section of the uterus, taking the plane of the internal os as the base of the cone and the fundus as its apex. This is similar to Sims' operation, except that higher tissues are removed. The operation should be followed by a thorough cauterization with Paquelin's cautery, as the finger is so easily deceived in regard to diseased tissue that some might be left if its judgment was relied upon after the use of the knife.

DR. BYRNE, of Brooklyn.—The best method in the treatment of uterine cancer, not involving the body of the organ, is the galvano-cautery. Recovery has occurred in many hundreds of cases, where the disease was limited to the portio vaginalis, and there has not been a fatal result. If traction can be made so as to bring the internal os in the line of the wire, it is best to employ it. Disease does not recur in the part of the uterus from which the cervix has been removed.

DR. ELY VAN DE WARKER, of Syracuse.—In one case which was under observation, there were seven relapses in six years. This woman was kept alive by the chemical cautery. The cautery is to be preferred to the knife.

DR. REAMY.—The knife and the cautery are both useful, and should be employed when indicated. The important thing to be considered is the removal of the diseased tissue without encroaching unnecessarily upon healthy parts.

DR. FORDYCE BARKER, of New York, made a motion that the reading of the paper next on the programme be deferred until after the President had delivered his Annual Address. The motion was carried.

DR. ROBERT BATTEY, of Rome, Georgia, delivered the

#### PRESIDENT'S ADDRESS.

He did not enter into the scientific discussion of any disease or operation, but confined his remarks to the condition and prospects of the Society, clearly presenting a plan for extending its usefulness. The attention of the members was called to the many vacant chairs, and it was suggested that some effort should be made with the object of filling them. America has so many men who devote their attention to gynecology that it would seem that a conspicuously small attendance must have some peculiar cause. When the Society was organized, the membership limit was placed at sixty, but it was afterwards changed to one hundred; in twelve years the average membership had grown from thirty-nine to fifty-eight, and the attendance from nineteen to forty-four. It is quite noticeable that meetings held in the Eastern cities are more largely attended than the others, and this is particularly true when the place selected is some great centre of population. There is, however, an excuse for absence on the part of many members, for it must be borne in mind that it is a great pecuniary loss for a busy gynecologist to give up his practice, even for a few days. The attendance could be increased by lowering the standard of admission, which would be bad policy, or by the better method of inviting able men to make application for membership.

Dr. Battay stated that he desired to make a few general remarks in regard to the often-agitated question of priority. The credit of discovery of a disease or its treatment belongs to the man who first recognized its true significance or merit, not to the one who had simply observed it to cast it aside or to fail to record it. It is similar to the finding of a rough diamond by a man who observes it as a pebble, and then throws it away, and the recognition of its true worth by a man who polishes the stone and exposes its brilliancy to the world. There should be a statute of limitation in medicine, to protect the real discoverer from the claims of those who failed to detect, or had not the courage to display, anything new which may have, years ago, been in their minds. Scientific discoveries should be recorded; and it is to him who does record them that preference in deciding the right of priority must be given.



Dr. Battey complimented the Society on the success of its work, and referred with pride to the position which it occupies as a scientific body of men.

The address was warmly received, and was followed by rounds of applause.

DR. E. C. DUDLEY, of Chicago, read a paper entitled:

THE PRESSURE FORCEPS VERSUS THE SUTURE AND THE  
LIGATURE IN VAGINAL HYSTERECTOMY.

Dr. Dudley said that vaginal hysterectomy presents conditions of safety which do not pertain to abdominal section. The hand is not introduced into the abdominal cavity, and the pelvic viscera are but slightly exposed or disturbed. The wound is in a dependent position where the blood and secretions may gravitate and be discharged through a natural drainage tube, the vagina. There are certain difficulties which must be overcome before the present not high mortality can be reduced to the minimum. These difficulties are as follows:

1. The great length of the operation. 2. Imperfect hemostasis. The ligature, which is generally employed to secure hemostasis, is the chief cause of delay in the operation, and some other reliable means of effecting the desired object would overcome the difficulties. The pressure forceps, which have been used by Péan, Richelot, and others, meet the desired requirements. The following is the technique of the pressure forceps operation:

The patient is placed in the lithotomy position, with the shoulders slightly higher than the pelvis, in order that fluids may not gravitate towards the diaphragm. A Simon's speculum is introduced, and the cervix is seized with strong volsellum forceps, and drawn down to the vulva. A free incision is made through the vaginal mucous membrane, with scissors, extending entirely around the cervix, at a safe distance from the diseased tissue. The loose tissues surrounding the cervix are torn away from it by means of the finger or a blunt instrument, keeping as close to the uterus as the disease will permit. All hemorrhage is controlled by ordinary pressure forceps. The circum-uterine structures may be stripped back from the uterus, until the exposure of the cervix is measured by a zone about three-quarters of an inch wide, extending to the lower margin of the broad ligament on either side. The uterus can now be drawn down much lower, and the dangerous territory of the ureters, close to the cervix, antero-laterally, will be more easily avoided in the subsequent steps of the operation. In the same manner, the post-cervical structures are fully separated from the cervix, until the *cul-de-sac* of Douglas is reached. By means of the index fingers in the *cul-de-sac*, this opening may be easily enlarged until it extends to the region of the broad ligament on either side. As soon as the opening has been made, two or three soft sponges, wrung

out of hot water, should be forced through into the pelvic cavity. They serve to protect the pelvic viscera from exposure and accidental injury during the remainder of the operation, absorb the blood, and thereby prevent the formation of clots which might be difficult to find. A string should be attached to each sponge, to keep it within control of the operator, if it should chance to work its way beyond reach of the finger. An opening is made into the peritoneal cavity, anterior to the uterus, by tearing with the finger or a blunt instrument, keeping close to the uterus, in order to avoid wounding of the ureters or the bladder. This part of the operation may sometimes be facilitated by passing the index finger through the posterior opening, and, if possible, hooking it over the broad ligament, so that it may serve, in some degree, as a guide, and thereby prevent the operator from wounding the bladder, ureters, or anterior uterine wall. The two index fingers are now introduced through this opening, and the opening is enlarged, by tearing laterally, until it extends to the region of the broad ligament on either side. Then the index finger of the left hand, or a blunt hook, is hooked over the left broad ligament, and the ligament is drawn down and seized by hemostatic forceps, the grasp being at a sufficient distance from the uterus to prevent the instrument from slipping off after the organ has been severed. The forceps are then securely locked and tied to prevent slipping, the ligament is severed close to the uterus, and the entire uterus is pulled outside. The right broad ligament is then secured in the same way, and the uterus is removed by a single stroke of the scissors. Should the operator desire to remove the ovaries and the tubes, they may be secured by separate forceps, unless already included in the grasp of those holding the broad ligaments. Any small vessels, which may be torn, should be grasped by hemostatic forceps; as many as twenty forceps may be applied without causing any great inconvenience to the operator.

Dr. Dudley stated that it is unnecessary to turn down the fundus of the uterus, if proper traction is made with the forceps. The practice of the German operators in curetting and disinfecting the interior of the uterus, several days before the operation, is also unnecessary. The wound should be closed with hemostatic forceps, applied as follows:

After the uterus has been removed and all bleeding points controlled, the forceps which clamps the broad ligament on either side is drawn down until the stump is exposed. Then the anterior and posterior peritoneal edges of the wound are approximated, with a tenaculum, in each hand, and are fastened together, at two or three points, by means of forceps, additional forceps being applied in each angle of the wound in such a way as to close the wound tightly around the stump, so that the part of the ligament included in the grasp of the forceps shall be held down in the vaginal wound and outside of the peritoneal cavity. The forceps suffice to hold the peritoneal edges of the wound

in accurate coaptation, until union has taken place, unless there be fluid in the *cul-de-sac*, in which case the small spaces between the blades will serve the purpose of drainage. Union usually occurs in a few hours. The less important forceps, those on the blood-vessels, may be removed in twenty-four hours; those on the ligaments may be removed in forty-eight or seventy-two hours. The last step in the operation is the insertion of a vaginal tampon.

The advantages claimed for the forceps operation are the following:

1. The operation is made short and simple.
2. Hemostasis is prompt and reliable.
3. Turning of the cervix into the peritoneal cavity and bringing the corpus uteri into the vagina are not necessary.
4. The sloughing stump, if left in the vaginal wound below the peritoneum, comes away much more quickly, and a clean, granulating surface takes the place of a gangrenous wound.
5. Effective drainage is secured by means of the forceps.
6. Convalescence is less complicated.
7. The operation gives promise of reducing the mortality to four or five per cent or less, as in twenty cases operated on there were only two deaths.

Dr. Dudley called attention to the fact that, in 1887, he announced to the Chicago Gynecological Society, in a paper read before that body, his intention of using the pressure forceps in cases of uterine myomata, applying them through the vagina, after the tumor had been removed through the abdominal opening. He claimed priority for this suggestion, although a medical publication had given credit to a physician who had not mentioned the use of the forceps in describing the operation for securing natural drainage through the vagina. He also claimed credit for first using the pressure forceps in place of sutures, but stated that Péan was the first to employ them for hemostasis.

#### DISCUSSION.

DR. JAS. B. HUNTER, of New York.—The forceps operation has many advantages over the difficult ligature operation in vaginal hysterectomy. It is best to use two forceps for the broad ligament; and Polk's modification of Richelot's forceps is to be preferred to the modification of Péan's, which Dr. Dudley had shown and recommended. Strong forceps are necessary to prevent the possibility of mishap.

DR. HENRY T. BYFORD, of Chicago.—Notwithstanding the many arguments presented in favor of the use of pressure forceps, the use of the ligature, without version of the uterus, has still many points in its favor.

DR. THAD. A. REAMY, of Cincinnati.—It is impossible to compress the broad ligament with a single Dudley's forceps, and many cannot be applied without interfering with the work of the operator. If compression is sufficient to control hemorrhage,

it will destroy the grasped tissue, and herein is its utility. The mortality of vaginal hysterectomy is not so great that the operation in vogue should be condemned.

DR. LANE, of California.—I was the first in America to perform vaginal hysterectomy, and have always used the ligature, and with good results. In case the uterus is attached by adhesions, the operation should not be performed.

DR. DUDLEY.—Dr. Reamy's objection to the use of the pressure forceps to secure hemostasis, on the ground that many cannot be applied without interfering with the work of the operator, is not pertinent. As many as twenty forceps have been used in a single operation. The murderous mortality of vaginal hysterectomy has been due to the failure to secure complete and permanent hemostasis; and this failure does not occur when the pressure forceps are used.

#### *Second Day—Afternoon Session.*

DR. C. M. GREEN, of Boston, read a paper on

#### SPONTANEOUS RUPTURE OF THE UTERUS.

Dr. Green briefly presented the history of four cases in which rupture had occurred at full term, and in which recovery took place. No cause for the rupture was certain, but the labors were long delayed ones, and instruments had to be used. In one case the supra-pubic pressure, exerted before the head entered the canal, may have had something to do with the rupture.

From a study of his cases, Dr. Green concludes that the prognosis is good in rupture of the uterus, if the patient does not die of hemorrhage or shock. If the liquor amnii drains before rupture, the chances of recovery are increased. If the uterus ruptures before the engagement of the head, gastrotomy is to be preferred to extraction *per vaginam*.

DR. THEOPHILUS PARVIN, of Philadelphia, in referring to Dr. Green's paper, said that recovery may take place after rupture. Laparotomy is sometimes necessary and sometimes not necessary.

DR. GRAILY HEWITT, of London, read a paper on

#### SEVERE VOMITING IN PREGNANCY.

Dr. Hewitt said that it is a mistake to suppose that pregnancy is always accompanied by vomiting; although vomiting is the rule, there are many exceptions. There is cause for the vomiting in pregnancy, and this should be carefully sought and corrected, if correction be possible. Among the very important causes are: retroversion or retroflexion of the gravid uterus, anteversion or antelexion, with or without impaction; induration or thickening of the cervix uteri, the presence of abdominal tumor, endometritis, emotion, chronic alcoholism, disease of the abdominal or pelvic viscera. If measures directed to remove the

cause of vomiting do not avail, abortion may give the desired relief.

Dr. Hewitt presented a series of tables in which the causes of vomiting and the treatment were noted, calling attention to many of the cases recorded and also to the many recoveries.

#### DISCUSSION.

DR. FORDYCE BARKER, of New York.—The vomiting in pregnancy depends on many causes, mainly constitutional ones. The constitutional susceptibility of individuals differs in marked degree. There are so many changes in the vascular system during pregnancy that much vomiting may be accounted for in this way. A patient's attention should not be called to any flexion which may exist, for fear that emotion may cause vomiting. Ante flexion of the uterus, even if not cured by the pregnancy, does not always produce vomiting. Retention of the urine, produced by pressure of the cervix of a retroflexed uterus, may be the cause of vomiting. In a case of pregnancy five or six months advanced, the patient was cured by eating lobster salad; she subsequently gave premature birth to twins. In directing our treatment, we should attempt to correct any local condition which increases the tendency to vomiting.

DR. A. J. C. SKENE, Brooklyn.—In a sensitive organization, or when the uterus is rapidly distended by the liquor amnii, vomiting is quite easily produced. In corporeal endometritis, the symptoms are very severe and more frequent than in most other forms of uterine disease which may produce vomiting. Each case must be studied by itself, in order to be properly treated.

DR. W. GILL WYLIE, of New York.—Most cases of vomiting in pregnancy are due to induration of the cervix uteri. Dilatation of the cervix will often cure these cases, and, if it be employed, the operator should dilate up to the os internum. If the vomiting be due to follicular or glandular disease of the cervix, special treatment will be necessary.

DR. GRAILY HEWITT.—The great difficulty in the way of treating severe vomiting is the liability to failure to diagnose the cause. An analysis of the many cases tabulated shows that the treatment is not difficult to find when once the cause has been determined.

DR. WILLIAM M. POLK, of New York, read a short paper entitled:

#### TREATMENT OF CHRONIC ENDOMETRITIS BY DRAINAGE WITH GAUZE.

Dr. Polk briefly described the varieties and causes of chronic endometritis. Many cases can be cured by the removal of the apparent cause, but such as cannot are suitable for treatment by drainage with antiseptic gauze. Drainage is essential in all cases

in which the lining of a cavity is in a state of chronic inflammation.

Dr. Polk recommended the following method of securing drainage by antiseptic gauze:

Anesthetize the patient; dilate the cervix and the cavity of the uterus; wash out the uterus, using a double catheter; pack, but not tightly, the uterus with strips of iodoform gauze; remove the dressing at the end of twenty-four hours, washing out the cavity if necessary, and repack with the gauze. Curetting is sometimes necessary and valuable, but drainage and the gauze are usually sufficient. In performing the operation, the most careful antisepsis must be employed. Drainage by iodoform gauze is especially valuable in hemorrhagic forms of endometritis.

Owing to the late hour, Dr. Polk waived the right of discussion, and DR. ELY VAN DE WARKER, of Syracuse, read a paper on

#### THE DANGERS OF GALVANO-PUNCTURE IN PELVIC TUMORS.

Dr. Van de Warker stated that he desired to have it understood that he is an advocate of galvano-puncture in certain forms of pelvic tumor, but that he intended to point out some of the dangers which, under certain conditions, might result from its use. He based his conclusions on three cases.

*Case I.*—A young married woman had a large tumor which completely filled the pelvis. Bipolar puncture was made, and was followed by a chronic febrile movement. There was subsequently a rupture of an abscess, which had developed in an abdominal extension of the tumor.

*Case II.*—A married woman, 43 years of age, had a large, irregular pelvic tumor. Galvano-puncture was made with the negative pole, using a large abdominal electrode. Cystiform degeneration of the tumor rapidly followed, and was associated with pain and discomfort.

*Case III.*—An unmarried woman, 27 years of age, had a solid tumor which filled the pelvis. Galvano-puncture with the short abdominal electrode was followed by a non-purulent cystiform degeneration. The patient died from exhaustion, after fifty-seven days of low fever.

Dr. Van de Warker offers the following conclusions: 1. That galvano-puncture of pelvic tumors must follow careful discrimination of the character of the mass. That, in certain forms, cystiform degeneration is promoted to the discomfort of the patient, if not to the jeopardy of life. Tumors that appear to be solid may not be so, but may have alveolar spaces of various and irregular sizes, with intervening trabeculae of various thicknesses. This condition has been regarded as either the degeneration of a pure fibroid, or fibro-cyst *de novo*, or a fibroid with disseminated lymph spaces. Whatever may be the pathological



condition involved, the group of tumors enumerated may prove hostile to electrolysis. We have, in such instances, the elements of cystiform evolution, which is quickly intensified by the electrolytic current. The trabeculae separating the lymph spaces become thinned by the pressure of the accumulating fluid, and, as a consequence, the general mass becomes greatly enlarged, and, owing to the structure of the tumor, impossible to drain. 2. The fluid so accumulating may become purulent, and, owing to the segregation of the spaces, be impossible to drain, and thus render laparotomy imperative, no matter what its difficulties may be.

3. Peculiar changes may be induced in the fluid, by the passage of the current, either septicemic or ptomainic, which result in a chronic form of blood poisoning with fatal exhaustion.

4. In order to render galvano-puncture of pelvic tumors safe, special diagnostic precautions must be taken. To this end, exploratory puncture with the aspirating needle, under careful antiseptic precautions, is to be recommended. If cystiform changes are already taking place, the tumor is not a suitable one for galvano-puncture.

5. The absence of pus, in cases of low, persistent fibrile reaction, with progressive exhaustion, points to exemption from bacterial infection of the lymph spaces of the tumor, and to the development of some other form of poison, possibly a ptomaine, due to the reducing action of electrolysis on the fluids.

#### DISCUSSION.

DR. THEOPHILIS PARVIN.—When Apostoli's paper was discussed before the British Medical Association, there was not a case of cure reported, as the result of treatment by galvano-puncture, and there were many deaths. There are many dangers attending the employment of galvano-puncture, and it requires an expert to use it properly.

DR. BAKER, of Boston.—While not having experienced any dangers from the use of galvano-puncture, I can agree with Dr. Van de Warker's conclusions. A patient should be kept in bed, say for ten or fourteen days, after galvano-puncture has been employed. It is reasonable to believe that various inflammatory effusions may be cured.

#### *Third Day—Morning Session.*

#### THE INFERTILITY OF WOMEN: SOME OF ITS CAUSES AND REQUIREMENTS OF TREATMENT,

a paper by DR. HENRY F. CAMPBELL, of Augusta, Georgia, was read by title, owing to the absence of its author.

DR. H. MARION SIMS, of New York, read a paper on

THE IMPORTANCE OF THE MICROSCOPE IN THE TREATMENT  
OF STERILITY IN WOMEN.

Dr. Sims said that the physician must endeavor to settle the following queries, when a case of sterility comes under his care, in order to work intelligently in the treatment of the condition: 1. Is the male competent to perform the sexual act? 2. Is the female competent to perform the sexual act? 3. Are the zoösperms healthy? 4. Is the ovum healthy? 5. Is the cervical mucus healthy? 6. Does some morbid condition prevent the zoösperms from coming in contact with the ovum? The cause of the failure to conceive may be attributed to the female, if the male is competent to perform the sexual act and the microscope determines that the zoösperms are healthy.

Fructification probably takes place in the tubes, as the zoösperms quickly enter the tubes after once in the uterus. Zoösperms have been found in the tubes a few hours after copulation. An obstruction in the tubes would, therefore, prevent fructification. The obstruction may be due to inflammations or other morbid processes—conditions difficult to diagnose and treat.

The most frequent causes of sterility in women are found in the uterus, and are: Permanent deviations, flexions, versions, lacerations of cervix, disease of cervix, and occluded or abnormally small external os. Disease of the cervical canal or poisonous discharges from the uterus or tubes will produce an unhealthy cervical mucus, which will destroy the zoösperms, and a very small *os tincae* will act as a barrier to the zoösperms. In the latter case, the condition may be accurately determined by introducing a small glass tube into the uterus, and examining the discharge, to see if the zoösperms have entered the uterine cavity. The tube may also be used to collect the cervical mucus. The secretions should be examined in all cases of sterility; in some of the most unpromising cases, the microscope will, by accurately determining the condition, direct a favorable treatment.

In treating sterility, the one thing to be borne in mind is the removal of the cause. Malpositions of the uterus should be corrected, lacerations should be sewed, and inflammatory and other diseases cured. A woman who has been cured of sterility may conceive as late as the fifty-fifth or sixtieth year of life.

In disease of the cervix, the Sims' method of performing division will be found to give most excellent results.

DISCUSSION.

DR. FORDYCE BARKER, of New York.—Dr. Sims states that conception may take place after the fifty-fifth year, but Sarah, of Bible fame, is the only woman who conceived after fifty-five years of age. I delivered a woman who conceived at the age of fifty-four. When the first confinement occurs late in life, the danger

to the woman is increased; there is less resistance in the elastic tissues of a young woman than of an old woman.

DR. JAS. B. HUNTER, of New York.—In cases of sterility treated by dilatation of the cervix, conception occurs more frequently when gradual dilatation has been employed. Forcible dilatation cannot be recommended.

DR. H. P. C. WILSON, of Baltimore.—The remarks of Dr. Hunter may be indorsed. The cause for so much sterility, after division of the cervix, is that the operation has not been followed by treatment of the mucous membrane; failures result from this.

DR. JOHNSTONE, of Danville, Kentucky.—When the pelvic sympathetic is injured in childhood, sterility is permanent, due to the lack of development of the infantile mucous membrane. Any condition which will produce atrophy, or arrest the development, of the infantile uterus is a cause of sterility.

DR. H. C. COE, of New York.—Sterility may be caused by distorted tubes or by an obstruction of the tubes, resulting from peritonitis. The infantile uterine mucous membrane is different from the senile. There is more epithelium thrown off from the infantile membrane, and this is the cause of the difference in secretion.

DR. ROBERT BATTEY, of Rome, Georgia.—In the South, the climacteric is reached at about the fiftieth year instead of the forty-fifth; and it is not an extraordinary case if a woman menstruates at fifty-five years of age. It does not, therefore, seem improbable that a woman should bear a child at the period mentioned by Dr. Sims. The cause of sterility may be a faulty development of one part combined with an over-development of another part. In one case, the anterior wall of the vagina was under-developed, and the posterior wall was over-developed, placing the os high up and back in the pelvis. The treatment in this case was applied to the husband, and consisted in a short lecture on some of the principles of mechanics.

DR. KOLLOCK, of South Carolina.—It is not unreasonable to believe that a woman can bear children after the fifty-fifth year. A woman had her first child at the age of fifty-three years.

DR. SIMS.—The operation of dividing the cervix is good, but it was, at one time, in bad repute, owing to its careless employment by over-assiduous followers of Sims. Failure to observe the minutiae and to take proper after-care account for the dangers of the operation. The insertion of the plug prevents hemorrhage.

DR. JAMES B. HUNTER, of New York, read a paper on

#### THE INFLUENCE OF PREGNANCY ON PELVIC DISEASE.

Dr. Hunter said that the congestion of pregnancy aggravates those diseases which are unfavorably affected by the congestion attending menstruation. Diseases of the anus, vulva, and vagina, as well as those of malignant type, are made worse by preg-

nancy. Lacerations of the perineum are enlarged, and cervical diseases are seriously increased in severity. Diseases of the bladder are made worse, but vesical calculi do not necessarily grow in size. The effect of pregnancy on malignant disease of the cervix may be such as to render amputation necessary, but lacerations of the cervix are not, as a rule, affected in the same degree. Congenital antelexion is often cured, but, in displacements of other kinds, the inflammation may be increased and remain permanent. Fibroids are not affected in great degree, but small polypoid growths are not cured, and they may become hemorrhagic. Ovarian tumors and parovarian cysts may rupture from pressure, or adhesions may form. Simple hypertrophy of the ovaries or tubes may result in peritonitis. Diseases of the tubes are always aggravated, but parametritis is not necessarily increased.

DR. HUNTER stated that the extent of the aggravation of a disease depended upon the duration of the pregnancy. The effects of a pregnancy reaching full term are worse than those in which there has been an abortion. At full term, such conditions as malignant disease, intra-uterine growths, and chronic endometritis may be dangerous, while at an earlier period they may not be so severe.

#### DISCUSSION.

DR. A. J. C. SKENE, of Brooklyn.—Pregnancy often increases any tendency to malnutrition, but many mild forms of pelvic disease disappear after delivery. Old adhesions, products of a bygone disease, are variously affected—some are made better and others are made worse. Cases of ovarian displacement are frequently cured by pregnancy.

DR. BACHE EMMET, of New York.—In cases of severe pelvic disease, pregnancy is not to be encouraged. The displacements resulting from the weight of the uterus, as well as those produced by inflammatory disease, are made worse by pregnancy, but old cases of subinvolution are usually benefited by it.

DR. CAMERON, of Montreal.—In studying the morbid conditions which may attend pregnancy, we should endeavor to distinguish between the effect of pregnancy upon the disease and the effect of the disease upon pregnancy. A fibroid may become dangerous on account of pregnancy, or it may, without any change in itself, seriously complicate the pregnancy.

DR. HUNTER, in closing the discussion, called attention to several statements made in his paper.

DR. GEORGE J. ENGELMANN, of St. Louis, read a paper entitled:

#### THE NEW METHODS OF ELECTRO-THERAPY IN THEIR BEARINGS ON GYNECOLOGICAL SURGERY.

Dr. Engelmann stated that he would not recommend electricity as a substitute for surgery in gynecology, but that he deemed it

a most valuable adjuvant. Electricity, when used with skill and discretion, is perfectly safe. It does not necessitate confinement in bed, and, as a rule, does not prevent a patient from attending to customary employment. In neoplasms, interstitial growths, etc., admitting of restoration, electricity is especially valuable, effecting the beneficial change through establishing a retrograde metamorphosis. Fibroids and myomata, before they have entered on a process of degeneration, may be benefited; and the same is true in case of stenosis and contraction of the uterine canal, especially if there be cicatrization. In chronic metritis with displacement, the condition of the patient is greatly improved by electricity, on account of the mucous membrane being restored to health, and the relief of the induration. Cases which would otherwise call for an operation *per vaginam*, such as certain forms of pelvic abscess and large, solid exudata, not self-absorbed, may be relieved by the passage of the electric current. Subserous and pedunculated tumors are less liable to be favorably affected than those in immediate connection with the vascular uterine wall, and cystic degenerations are aggravated. Fibroids and fibroid myomata are not destroyed by electricity, but they are usually benefited by it. Caruncle, hemorrhoids, polypi, etc., are improved by the electrical treatment. It is best to employ vaginal puncture in all cases in which electricity is used. A few sittings will determine whether the treatment is applicable to a case.

Dr. Engelmann said that he had seen a few cases in which the effect of electricity was harmful. In one case, hemorrhage followed; in another case, one of a cystic tumor, there was a slight degree of inflammation. Notwithstanding an occasional failure to get a satisfactory effect, the record of many cures, the slight danger attending its use, and the possibility of dispensing with the use of cutting instruments, are sufficient reason for the physician to employ electricity in many gynecological cases.

#### DISCUSSION.

DR. H. P. C. WILSON, of Baltimore.—The success of the electrical treatment depends upon the selection of cases. Treatment may be beneficial or harmful, according to the character of the disease. Electricity was employed in the case of a large mural fibroid, which was so adherent that a cutting operation could not be performed. The first sitting quite changed the condition of the patient, and, ultimately, the tumor was reduced to two-thirds of its original size, and the cellulitis was removed. Keith and Apostoli lay great stress upon the external electrode, and claim that a sitting should occupy from twenty to thirty minutes. The electrical treatment has a great future before it.

DR. GRAILY HEWITT, of London.—Electrical treatment is destined to alleviate much human suffering, and we should diligently study its application to the treatment of disease. The tendency to operate is excessive, and it should be limited. In all

cases where there is doubt as to the feasibility of performing an operation, electricity should be tried.

DR. PARRISH, of Philadelphia.—In cases other than abscesses, an operation should be delayed until electricity has been tried. Abscesses call for an immediate operation. Pelvic exudations, non-suppurative, extending as high as the umbilicus, have been cured by electricity.

DR. ENGELMANN.—All that we can do now is to draw a crude outline of electrical treatment; gradually, by experience, we may fill this in until our map is complete.

*Third Day—Afternoon Session.*

DR. MATTHEW D. MANN, of Buffalo, showed a specimen illustrating, and made a few remarks on,

OVARIAN FETATION.

Dr. Mann said that many authorities hold that extra-uterine fetation is always primarily tubal; that when the fetus and its investments are found without the tube, it is supposed to be due to an early rupture of the tube. Notwithstanding the strength of the authority holding such opinions, it is a matter of record that there have been a large number of ovarian and abdominal pregnancies, in which the tubes were intact. Some time ago, Schroeder stated that thirteen cases of ovarian pregnancy had been recorded, but there have been one or two cases since he wrote in regard to this subject.

The specimen presented had a most imperfect history, as it had passed a year in a very weak preserving fluid, but it had not entirely lost its interesting features. It was a cyst of the ovary, containing a milky fluid, and having a circular, flattened disk attached to its walls. No fetus was found, but this was probably due to post-mortem absorption. The attached part was placental, as was demonstrated by the microscope.

DR. J. E. JANVRIN, of New York, read a paper entitled,

ON THE INDICATIONS FOR PRIMARY LAPAROTOMY IN CASES OF  
TUBAL PREGNANCY.

Dr. Janvrin said that, two years ago, he had reported to the Society a case of extra-uterine pregnancy, in which the diagnosis was made as early as the fifth week. In this case, the patient died after three days of electrical treatment. The danger attending the use of electricity is such that it is not a good plan to use it prior to the fourth month; in fact, it is best, in all cases, to perform laparotomy as soon as tubal pregnancy is diagnosed. If abdominal section is to supplant electricity in the treatment of tubal pregnancy, it can only be brought about by a clear appreciation of the symptoms, as early as the fourth or fifth week of



gestation. Passing one menstruation, and pain with some other signs of pregnancy, should attract attention; discharges should be examined for evidences of decidua. Extreme sensitiveness over the tubes is a valuable symptom. The relative position of the tubes may vary, but any mass in one of them can be easily made out. When symptoms of pregnancy exist, it is wise and justifiable to examine the uterine cavity, in order to determine whether the pregnancy is uterine or tubal. It is commonly, and rightly, believed that tubal pregnancies are more apt to occur in women who cohabit illegally, and in women whose second pregnancy follows the first after an interval of several years.

Accepting the diagnosis of tubal pregnancy, the physician must decide between electricity and abdominal section. In pyo- or hydro-salpinx, it does no harm to wait awhile before resorting to an operation, but in tubal pregnancy the fetus must be removed at once, in order to prevent serious complications. The best method for accomplishing the removal of the fetus is primary laparotomy, and the indication for its use is the early diagnosis of tubal pregnancy. In the majority of cases, the impregnation begins in the tube, and other forms are primarily due to this; rupture of a tube is the exception.

Dr. Janvrin claims to be the first who recommended the primary operation for tubal pregnancy. In a paper read before the New York County Medical Association, April, 1888, he advised that laparotomy be performed before any hemorrhage had taken place in the cyst walls.

DR. H. T. HANKS, of New York, read a paper on

#### THE EARLY DIAGNOSIS OF ECTOPIC PREGNANCY AND ITS TREATMENT, WITH REPORTS OF TWO CASES.

Dr. Hanks said that, of ninety-seven cases previously reported, thirty-one had had no operation. Eighteen of the thirty-one patients died after varying periods of gestation: one died in the first month, five in the second month, three in the third month, three in the fourth month, two in the fifth month, two in the sixth month, one in the eighth month, and one was not accurately determined. Ninety-five per cent of ectopic pregnancies can be diagnosticated by a competent man, and should be determined before the end of the third month with great certainty. Nearly all ectopic pregnancies are primarily tubal; others are not demonstrated, because we cannot always tell just what tissues are in immediate contact with the ovaries.

*Case 1.*—The patient, a woman of 26 years, had given birth to a child about five years ago. In April, 1887, she had nausea and frequent desire to urinate, lost some blood, and passed what was supposed to be decidua. She continued to lose a little blood, her pain increased, and a piece of decidua again passed, but there was no elevation of temperature. Tubal pregnancy was suspected, and electricity was employed, the patient being under

chloroform every second day. After the third dose of electricity, the breasts became flabby and nausea ceased, but there was much hemorrhage for two weeks following. Recovery took place in July.

*Case II.*—The patient had had three children, the last of which was born three years ago. In March, 1888, she had a flow of blood, there was pain above the groin, and the uterus was pushed to the left by a large tumor in the right side. A current from a galvano-faradic battery was applied, and pain ceased after the first dose. The patient had not been anesthetized.

Dr. Hanks said that, in cases of ectopic pregnancy, electricity should be employed not later than the fourth month, and the diagnosis should be made earlier. Avoid electricity only if severe hemorrhage has taken place. The fetus can be removed by laparotomy, if electricity does not suffice to destroy it. Ford says, "Tissue is destroyed by electricity in inverse ratio to its degree of vitality." When the symptoms are grave, laparotomy should be performed without delay. The following rules should be followed, in order to decide as to whether electricity or laparotomy should be employed: 1. If the diagnosis is made in the first four months of pregnancy, and the symptoms are only those of primary rupture, use electricity. 2. If pregnancy has advanced beyond the fourth month, perform laparotomy. 3. If the symptoms are in any stage severe, perform laparotomy. 4. After the fifth month, if the symptoms are not severe, delay in hope of saving the child is justifiable. 5. If the fetus is dead, immediate laparotomy is indicated.

#### DISCUSSION.

DR. HARVEY, of Calcutta.—Laparotomy is in its infancy in India, and it is difficult to gain consent to the operation. In cases of ectopic pregnancy, there is absolute futility in an expectant treatment, but laparotomy is not justifiable in the hands of an inexperienced operator. The work of Americans has demonstrated that much good can be done by electricity, and the greatest objection to its general adoption is, that the operator is never sure when rupture may occur.

DR. J. C. REEVE, of Dayton, Ohio.—The vascular action is apparent to the touch when an examination is made of the cyst; there is a pulsative symptom of the projection into the vagina. The changes in this projection, the increase of size, etc., coupled with other characteristic symptoms, do away with liability to err in making a diagnosis. There is no record of the remnants of a fetus, which has been killed by electricity, producing harm; however, the possibility of serious after-effect should be investigated. The immediate beneficial effect which may follow an application of electricity is in favor of this method of treatment, as is, also, its adaptation to the use of the general practitioner. An experienced operator should not be censured for preferring laparotomy. Electricity should not be employed unless the danger

of a possible rupture has been explained to the patient and her friends.

DR. S. C. GORDON, of Portland, Maine.—The operator is frequently called so late that he can be of no service to the patient. If hemorrhage follows the application of electricity, the benefit of an operation is lost, and the patient dies. If an accurate diagnosis of ectopic pregnancy can be made, we should, on account of our present successes in abdominal surgery, employ the absolutely safe method of treating the trouble by laparotomy.

DR. JOHNSTONE, of Danville, Kentucky.—There is only one degree of difference between an ovarian and a dermoid cyst; and Dr. Mann's specimen appears to be dermoid. Placental tissue in an ovarian cyst is not a sign of ovarian pregnancy. The specimen presented did not show proper depth of furrows; immense sulci will be found, as the remnants of vessels, in case of ovarian pregnancy. As a rule, the physician is not called before rupture has occurred. Lawson Tait reports that he saw but one out of seventy cases before rupture had taken place. Pain and shock are usually indicative of rupture; and many distinct shocks may occur, each one representing a hemorrhage. Each rupture records itself by the clot formed, and the difference in the ages of clots shows the intervals between the hemorrhages. Laparotomy should always be used in ectopic pregnancy; passing electricity through congested organs enhances the danger of rupture. After-growth of the placenta can occur, as this membrane has a growth separate from that of the fetus. In order to expel the placenta, it would be necessary to use so strong a current that life would be endangered. Running the risk of subsequent suppuration is greater than the danger of laparotomy. The use of the battery in ectopic pregnancy is wrong in principle and faulty in its results. After the formation of lithopædia, absorption does not take place, but suppuration may occur at any time, so that the patient is not safe. A lithopædium is a dynamite cartridge, which may explode at any time.

DR. KOLLOCK, of South Carolina.—When the diagnosis of ectopic pregnancy has been established, laparotomy should be performed. Successive hemorrhages may be followed by death, and the possibility of such a result should be removed by a radical treatment. Delay in treating such cases is not at all justifiable.

DR. W. GILL WYLIE, of New York.—The diagnosis of ectopic pregnancy is uncertain, but, when once made, it should be followed by laparotomy. If rupture has not occurred, the danger from electricity is slight, but it does not offer the safety of laparotomy, nor does it remove the liability to after-trouble.

DR. GEO. J. ENGELMANN, of St. Louis.—If doubt exists as to the correctness of a diagnosis of the early stage of extra-uterine pregnancy, electricity should be employed.

DR. H. C. COE, of New York.—Placental tissue will not be found in a dermoid cyst; its presence would indicate that con-

ception had taken place. Typical cases of ectopic pregnancy are easy to diagnose, but other cases are difficult. Ectopic pregnancies are often mistaken for other morbid growths, and, *vice versa*, other morbid growths are often mistaken for ectopic pregnancies.

DR. TYNDALL, of South Carolina.—The character of the surroundings, the conveniences at hand, and the skill of the surgeon should determine the character of the treatment of extra-uterine pregnancy. Laparotomy, under proper conditions, is the best treatment, as the tissues are weak, and the danger is increased if the fetus is not removed.

DR. A. PALMER DUDLEY, of New York.—We want to know how to make a diagnosis of extra-uterine pregnancy. In one case, a diagnosis of ectopic pregnancy was made, but the tumor was a parovarian cyst, which was bound down by adhesions.

DR. MATTHEW D. MANN.—Placental tissue is not found in dermoid cysts. The absence of sinuses in the specimen presented may be explained by the early death of the fetus. If electricity be used in the early stages of extra-uterine fetation, lithopedia do not form. A lithopedium is not a dynamite cartridge, and a woman may carry one for years. It is well to employ electricity in cases of doubtful diagnosis.

DR. J. E. JANVRIN.—Hemorrhages may occur several times, and the character of the clot is a record of the age of the hemorrhage. An exploratory incision is justified if the diagnosis is doubtful. Only an experienced surgeon should operate; others should use electricity. It would be very exceptional for some other condition to simulate extra-uterine pregnancy.

DR. H. T. HANKS.—The general practitioner should be prepared to use electricity until the arrival of the laparotomist. There have not been reports of serious trouble, if the fetus was killed before the end of the third month.

At the close of the discussion, Dr. Robert Battey introduced the president-elect, Dr. H. P. C. Wilson, of Baltimore. The Society then adjourned, to meet in Boston on the third Tuesday of September, 1889.

---

A special meeting of the Society was held on the evening of September 19th, at which officers and Fellows were elected as follows:

#### OFFICERS.

Dr. H. P. C. Wilson, of Baltimore, president; Drs. William T. Lusk, of New York, and Edward W. Jenks, of Detroit, vice-presidents; Dr. Joseph Taber Johnson, of Washington, secretary; Dr. Matthew D. Mann, of Buffalo, treasurer.

#### OTHER MEMBERS OF THE COUNCIL.

Dr. Ely Van de Warker, of Syracuse; Dr. George J. Engelmann, of St. Louis; Dr. J. E. Janvrin, of New York; Dr. B. B. Browne, of Baltimore.

## ACTIVE FELLOWS.

Dr. S. C. Gordon, of Portland, Me.; Dr. John S. Coleman, of Augusta, Ga.; Dr. Henry C. Coe, of New York; Dr. T. A. Ashby, of Baltimore; Dr. A. Palmer Dudley, of New York; Dr. H. J. Boldt, of New York; Dr. E. C. Gehrung, of St. Louis.

## HONORARY FELLOWS.

*Foreign.*—Dr. Graily Hewitt, of London; Dr. W. Overend Priestly, of London; Dr. Alexander R. Simpson, of Edinburgh; Dr. August Martin, of Berlin; Dr. Emil Noeggerath, of Wiesbaden.

*American.*—Dr. Gilman Kimball, of Lowell, Mass.; Dr. I. E. Taylor, of New York; Dr. Alexander Dunlap, of Ohio.

## ABSTRACT OF THE PROCEEDINGS OF THE AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS

AT THE

FIRST ANNUAL MEETING,

HELD IN WASHINGTON, D. C., SEPTEMBER 18TH, 19TH, and 20TH, 1888.

The President, DR. W. H. TAYLOR, of Cincinnati, called the meeting to order and introduced DR. THOMAS E. MCARDLE, of Washington, who, in the name of the medical profession of Washington, cordially welcomed the Association to the city, and congratulated the members upon their organization for the performance of the important work they had undertaken.

THE PRESIDENT then delivered his

## ANNUAL ADDRESS.

a brief abstract of which is as follows:

In thus assembling for the first time as a Society, it may be proper to demand a reason for its existence. The daily round of professional experience impresses the practitioner of medicine with the incompleteness of his knowledge, and to the man who sees in his avocation something more than a mere source of pecuniary profit there must arise the desire to know the yet unknown. No argument is needed to prove the assertion that the united effort of many is more fruitful than the inharmonious working of individuals; hence the propriety of co-operative organization. It may be admitted that the motive of our Association is first our own advancement, yet it cannot be considered undue self-adulation if we be-

lieve that from such combined effort good must come to the profession at large, and necessarily through the profession to those who above all others are interested in the perfection of our knowledge and skill—our clients.

The activity of the past decade has given us so many important facts that it would scarcely be hyperbole to say that a new practice of obstetrics and gynecology has been created in that time. But the very fact that there has been such progress, and that so much that but a few years ago was impracticable or even unknown is now feasible and well known, only stimulates us to better work and further advance; and with the vast range of study and the diversity of subjects now comprehended by the science of medicine, it is clear, beyond controversy, that advance can be made only by men directing their efforts to a limited field of work. Such, gentlemen, I believe, are sufficient reasons for our presence here to-day as the American Association of Obstetricians and Gynecologists.

While I have felt the great honor of my position, I have also realized the great difficulties of bringing anything before you worthy of your attention. A glance at the programme laid before you will convince you that the various practical topics which are so important are to constitute much of the subject matter of discussion here, and therefore it is inexpedient for me to dwell upon them. The proper indications for abdominal section, the true position which electricity shall occupy in gynecology, the propriety of hysterectomy, the value of Alexander's operation, and its newly-devised congener, abdominal fixation for retro-deviations of the uterus, the relative merits of craniotomy, Cesarean section and induced labor, the best method of dealing with extra-uterine pregnancy, the proper means of securing anti-sepsis, are all questions fraught with great interest, and merit the most thorough study, and so confident am I that, before this meeting closes, much light will be shed upon many or all of them by our deliberations, I shall pass them by without further consideration.

An opinion has large credence among the laity, and is indorsed by some members of our profession, that intentional abortion is a common crime, and statisticians and social scientists see in the decreasing fecundity of American women clear evidence of the truth of this charge. That some women are guilty admits of no doubt, but that it is so universal an evil as sensational literature, especially of non-professional origin, would indicate I do not believe. Permit me to direct your attention to a more demonstrable cause for diminishing fertility. I need but remind you of the deleterious influence of social habits and circumstances over the functions and physique of women, and, consequently, how many fashionably educated girls are incapable of completing the process of maternity. Those who are fond of charging American women



with the crime referred to cite to us the rich, the educated, the refined, as guilty, while their sisters who are less favored financially, and are humbler socially, bear their due proportion of children. Now, the first class are the physically feeble, the enervated, and therefore incapable of carrying the process of reproduction to its ultimate perfection. A lack of fecundity on the part of a woman is often due to endometritis, and is overcome by the cure of the diseased condition. Many cases of sterility after the birth of one child are due to inflammatory processes of the genitalia. Accept these statements as true and a rational explanation of the asserted evil is found, and it is at once transferred from the domain of ethics and morals to within the pale of our professional care, and at the same time vindicates those whom we look upon as the purest and best, from the indiscriminate charge of the murder of their unborn children.

I believe the influence of the genitalia over the general system, especially in its nervous manifestations, has been exaggerated; that entirely too much attention has been paid to the genital organs in connection with neuroses. Our associate, Dr. W. H. Wathen, has recently said: "The removal of healthy ovaries or tubes to cure epilepsy or vague nervous diseases not due to irritation of the pelvic organs was not more consistent than the castration of a man for similar purposes." And our associate, Dr. A. Vander Veer's experience regarding hystero-epilepsy was, that it had not been cured by removal of the appendages.

A subject of practical importance urgently demanding attention from the obstetrical section of our association, is the constantly increasing inability of women who should be "nursing mothers" to furnish milk for their infants. Many women who have borne children are incapable of nourishing them; probably about forty per cent with us, and, according to Escherich and others, in Bavaria, fifty-nine per cent, of mothers become incapable from physical causes of nursing their children within two months after delivery. In a large degree this is the result of habits tending to impair the integrity of the mammary glands.

Another topic well worthy of our most careful thought is, what can be done to mitigate the pains of labor? My impression is that, with the great majority of obstetricians, but little is done to lessen pain during a large part of the process of delivery. With the abundant therapeutic resource of the present day, we ought surely to divest this ordeal of the intensity of its pain. I trust by another meeting to make report upon experiments I am now making.

It has been said, as civilization progresses, the tendency of all human diseases has been to assume the neurotic type, and also that diseases become more complex in their manifestation. On the other hand, the recent advances in antisepsis allow the hope that some day we may eradicate the septic diseases of child-birth, and our grand advances in surgery shall qualify us to cope suc-

cessfully with what a few years ago would have been considered a helpless and hopeless condition. Science knows no sentiment, and we can cherish the achievements of the past only so far as they aid us for the future. Science almost every day brings a new surprise, so we may confidently anticipate advances and successes which shall as far surpass our present attainment as these do those of the past generation, and happy may we count ourselves that this Association, so auspiciously established, shall contribute to these magnificent and beneficent attainments.

DR. A. CORDES, of Geneva, Switzerland, sent two memoirs, which were read by the Secretary, Dr. W. W. Potter. The first paper, on the

#### TREATMENT OF PUERPERAL ECLAMPSIA,

contained a report of four cases treated by the injection of bromide of potassium and chloral hydrate, with abstraction of blood over the mastoid processes by leeches; advocating this treatment in preference to general bleeding, chloroform, and arterial sedatives. He also deprecated any interference with the genitalia, such as digital examination, passing the catheter, etc., which he thought were liable to provoke convulsions.

The second paper,

#### THE TREATMENT OF ENDOMETRITIS

by injections of pure nitric acid, was illustrated by three cases in which this method was employed. The writer preferred this method of treatment to that by the curette, in cases where there were fungosities or other irregularities of the intra-uterine surfaces.

DR. A. LAPHORN SMITH (Montreal).—I would like to be permitted to say two or three words on this very important subject. I think we should lay down three principles to guide us in these cases. Puerperal convulsions are due to mechanical pressure on the renal veins. If that remains too long, it will bring on uremia. Uremia continued long enough produces permanent damage to the brain. We should empty the uterus and take the pressure off the renal veins at the earliest moment we are sure such a condition is in existence. I have acted myself two or three years on that plan, and have had no cause to regret it. The only regret I have is that during five or six years I adopted the method of waiting. Although none of the patients died, all of the children died, and one of the patients was in an asylum several years. I think if premature delivery is brought on under antiseptic precautions, we will in all cases save the woman, and save her brain intact, and occasionally save the child. But the child is a secondary consideration.

DR. BYRON STANTON.—I would like to ask if bringing on labor is not adding fuel to the flame; if it is not better to defer as long as possible the production of labor, and treat the renal condition; place the patient in better condition for delivery. We know that convulsions do not always cease at delivery.

DR. A. L. SMITH.—I do not think you should wait until the

woman has convulsions. If you know that the urine is loaded with albumin, bring on labor without delay. Every moment of delay you increase the danger.

DR. JOSEPH PRICE.—The gentleman that has just taken his seat expresses a great deal of wisdom in his remarks. I will simply state one case of quite a number in my own experience. Mr. Tait calls attention to the frequency of such troubles in elderly primiparæ. It is claimed that it is exceedingly common in that class of patients. I will merely cite one case to fortify the remarks of the gentleman from Montreal. I was summoned to Germantown to see a patient 30 years of age, married two years. At the seventh month of pregnancy she was enjoying excellent health, and was watched by a very careful practitioner. There was no albumin in the urine or other indication of approaching mischief. At the eighth month she came to him with edematous feet, headaches, puffy face, and disturbed vision. He wrote me he would like me to see a patient; that she was pregnant, and he feared convulsions. Shortly after he telegraphed me that she had had a convulsion, and to come on the first train. She had had two convulsions. Her urine, secured only by the catheter, was found to be solid with albumin. In the interest of the mother and child we agreed upon, with some preparation, induced labor. This preparation, it strikes me, is of paramount importance in the majority of these cases of approaching eclampsia. We agreed upon the use of a hydragogue cathartic and the use of bromide and chloral. Her brain and blood, and particularly her kidneys, were relieved of this puerperal poison. Her physician applied the forceps, and delivered the child. Her kidneys cleared up rapidly, no further brain symptoms appeared, the edema disappeared, and he saved both mother and child. I tell this as simply a typical case. I could cite a number of others. I wish to emphasize the importance of this careful preparation and early induction of premature labor in cases due to mechanical pressure.

DR. W. W. POTTER.—I had not thought that I should say a word on this subject, but Dr. Price has kindly opened up a channel of thought which is agreeable to me because he refers to a method that has brought success in my hands. I will very briefly rehearse a recent case. On the 4th of June last, I was called to see a woman who had been in almost a uremic stupor for a period of a few days; not absolutely comatose, but verging toward it. She was then about the end of the eighth month of pregnancy. I saw her, and induced labor. I delivered her on the morning of the 5th. She was unconscious of her maternity for some time. The child weighed from three and one-half to four pounds. For two weeks she was in only a semi-conscious condition. She was edematous to an extreme degree. She has fully recovered, and the child is living, but she never had a drop of milk from the first. She was a well developed woman without any appearance of ill-health. It was something like a month before she was really well so that she could go out. I mention this as a parallel to the remarks of Dr. Price. We preceded the work with an injection of a grain of morphia hypodermically.

DR. CLARK.—I consider that emptying the uterus is one important thing in eclampsia. Some three years since, I was called in consultation to see a woman in convulsions about the seventh month of pregnancy. We decided that it was necessary to dilate the uterus and deliver the woman. Previous to this we used the

subcutaneous injection of morphia, one-half grain, which was repeated some time after the woman was delivered. What seemed to relieve her a great deal was one-sixteenth of a grain of pilocarpine. It was a long time before she recovered her sight. The next time she was pregnant I commenced treatment early using saline laxatives. She went on well with scarcely any albumin.

#### THE INDICATIONS FOR DRAINAGE IN ABDOMINAL SURGERY.

By DR. JOSEPH PRICE, of Philadelphia.—He said the object of this paper was to point out the indications for drainage in abdominal surgery. At the present time there is the greatest variance in the opinions and practice of surgeons upon this point, and some fixed rules, such as are laid down in other departments of operative surgery, are needed.

First: is there danger from the retention of fluids in the peritoneal cavity? Second: is the drainage-tube a safe means of obviating this danger? Third: if the tube involves danger, what are the comparative risks from its employment or omission? That the peritoneum will relieve itself of exuded fluids is well known; and it is also an established fact that the free use of saline cathartics will often arrest acute peritonitis. Experience has also shown that these resources often fail, and it is necessary to reopen the abdomen, irrigate the peritoneum and insert a tube; this too in cases where no pus is found. It is a fallacy to believe that extensive adhesions are alone an essential indication for drainage, since free exudation can arise from severing slight adhesions, and extensive bleeding follow slight oozing after the patient reacts. This latter fact was illustrated in a recent case in which bloody exudation, which seemed almost nothing at the close of the operation, flowed freely through the tube for ten days afterward. A great difficulty is presented in deciding a case to be simple, particularly in cases of inflammation of the tubes and ovaries. Indeed, no one can decide during an operation whether the inflammation is simple, purulent, or specific. Herein is an additional indication for the cautery used by Keith. Drainage removes the pabulum of infection. In case of very extensive adhesions and positive hemorrhage, the value of the tube cannot be questioned.

The danger involved in inserting a simple glass tube in the abdomen is very small indeed. The involvement of the peritoneum in the perforations of the Bantock tube has been urged as an objection to its frequent use. This danger may be entirely obviated by carefully packing the tube lightly with absorbent cotton, which also by capillarity facilitates drainage. The tube should be rotated occasionally and slightly elevated. When kept clean by frequently changing the cotton, with careful attention to that part of the incision through which it is introduced, there is no appreciable danger of infection. I have reached this conclusion after using it in the most extreme cases of pelvic adhesions, extra-uterine pregnancy, hysterectomy, pus tubes, and so-called simple ope-

rations. I have never had a single fatal result which could be attributed to the use of the drainage tube, and in numerous cases I have seen serious trouble relieved by its introduction.

Irrigation is an important adjunct to drainage in abdominal work. It is of the utmost value in removing debris, clots, and shreds. Pouring water through the incision is not so efficacious as its introduction by a syringe which makes an uninterrupted current. I place the nozzle of the syringe through the lower angle of the incision, and with two fingers retract the intestines, thus giving free exit to the current. In this way the entire abdominal cavity can be thoroughly washed out. I cannot see any advantage in Prof. Martin's method of drainage through the vagina. To close the ventral incision to make one in the vagina seems to me unnecessary and illogical. If drainage be decided upon, the site of the incision offers every requisite.

In this connection, I will say that all chemical solutions are unnecessary and positively harmful. Such agents introduced into the peritoneum have done much mischief. The intestinal pain so often following operations in which solutions were applied is, in many cases, due to the adhesions formed in consequence of their use.

In deciding the important question, when shall the tube be removed? we should look to the character and quantity of the discharge. When this is clear and sweet and scant, the tube should be removed. It has been urged that the tube delays union and thereby increases the danger of ventral hernia. This I do not believe. A very long incision, getting up too soon, and discarding the bandage too early, are the most potent causes of this accident. Indeed, I believe the objections urged against the use of the drainage-tube are theoretical and deserve no consideration, in view of the important and serious perils eliminated by its use, viz., protection of the peritoneum from infection. The faith I have placed in it has been fully justified by the results attained.

#### A CONTRIBUTION TO THE STUDY OF PELVIC ABSCESS.

By CLINTON CUSHING, M.D., of San Francisco.—He defined a pelvic abscess to be any collection of pus in the cavity of the pelvis which exists in the tissues outside of the cavity of the hollow organs, such as the bladder, uterus, Fallopian tubes, and the rectum. He was becoming more and more convinced each year of the truth of the statement made by Noeggerath, that uncured gonorrhea in the male is a very frequent cause of salpingitis. A recent case had come under his observation in which this theory was verified in every particular. A woman, 27 years old, had been seduced nine years before; since which time she had apparently led a moral life but had suffered from chronic pelvic abscess, resulting in repeated attacks of pelvic inflammation. She had lately married, immediately following which all her symptoms became



very much aggravated; while the husband himself contracted a severe urethritis, which resulted in perineal abscess. Her case becoming serious, he saw her and diagnosticated a probable pelvic abscess. Upon opening the abdomen, the right Fallopian tube was found distended with pus at its larger extremity, and a pelvic abscess containing several ounces of pus. He removed both tubes and ovaries. A microscopic examination showed micrococci present in both tubes, mingled with the pus. The secretion of the urethra of the husband also contained gonococci. This case would seem to demonstrate that the woman had been infected with the gonorrhea nine years before, that its specific character remained in the Fallopian tubes, causing frequent attacks of pelvic inflammation; that the husband had contracted the disease of the woman; that the sexual relations had aggravated the already existing disease of the woman, resulting in the formation of the pelvic abscess, which necessitated operation. She recovered without a bad symptom.

In another case, he opened the abdomen and found that a portion of the abdominal cavity below the umbilicus was an immense sac of pus, containing at least a gallon. A counter-opening through Douglas' pouch was made, and a drainage tube drawn through the abdominal opening into the vagina. On the second day the bladder sloughed, the urine escaping into the pus cavity. An artificial vesico-vaginal fistula was formed, that the urine might drain from below, and thus enable the pus cavity to heal. At the end of the year the cavity was healed, the abdominal wound was closed, the vesico-vaginal fistula was repaired, and the patient restored to health.

He presented a dilating trocar which he used in operating in such cases where it was necessary to puncture through the vagina. He also presented a self-retaining drainage tube of T shape, made of a piece of rubber tubing of suitable size, the cross-section fastened in place with a strand of silk, introduced by pressing the end of the cross-section within the grasp of a pair of forceps, carrying it into the pus cavity and liberating the T. The dilating trocar had proven in his hands a most satisfactory instrument, enabling him to afford speedy relief in many cases, where, without it, procrastination would have been necessary, and much valuable time lost.

DR. W. W. POTTER (Buffalo).—I wish to introduce to the notice of the Fellows of this Association what I think is possibly a drainage tube of a little greater advantage than the one Dr. Cushing has presented. Its head is continuous, is a part of the tube itself, and will keep the lumen of the tube open.

DR. JOSEPH EASTMAN (Indianapolis).—I have one remark to make with reference to the drainage tube and dilating trocar. Prof. Martin, of Berlin, has been using the ordinary dressing forceps, forcing it through the vault of the vagina, seizing the drainage tube, and drawing it up in that manner. I have in that way



been using the Bozeman dressing forceps, simply sharpening their points.

I was much interested in the paper of Dr. Price. I believe in a publication of mine I made the statement that I would drain on the slightest excuse: that I still hold to. Now as to the question of permanent drainage. Dr. Wylie, of New York, speaks of establishing permanent drainage. I do not know how that is to be done. In my experience, and that of others, I find that, in at most a week, nature has covered in the tube with plastic material. In the first ovariectomy by Dr. McDowell, he allowed the ligatures to hang out of the abdominal wounds. I am not sure but that is about as good drainage as we ever had or will have. It is good capillary drainage. In fifty-one cases, I have not had a hernia except in one case. That was where I had to leave the drainage tube in over a week. It seems to me the entire key to the situation is in bringing the abdominal layers into exact apposition. I am satisfied that we must not decide for vaginal drainage or abdominal drainage, one against the other.

DR. E. E. MONTGOMERY (Philadelphia).—The members of the Association are greatly indebted to Drs. Price and Cushing for their practical papers on a subject of the greatest importance to those practising abdominal surgery. I take it, in the practice of this department, we are desirous of using no measures unnecessarily, and on the other hand of leaving undone nothing that is important for the relief and for the salvation of our patients. With this in view, it seems to me it is exceedingly important that practical indications should be laid down for the treatment of such cases, to make sure the class of cases in which drainage is indicated and necessary, and outline those in which it is not indicated. In many cases the necessity of drainage may be obviated by the subsequent care of the patient. If we place the patient on a restricted diet, or diminish the amount of liquid, so that the pressure in the vessels will be decreased, and the vessels, instead of throwing out liquid, will take it up, there will be less danger of peritoneal effusion. In the applications of the dressings, where we have reason to expect peritoneal effusion, if we apply pressure, we will find the danger of effusion is lessened. Another important thing is the care of the drainage tube, so that the secretions are not allowed to decompose in the peritoneal cavity. By the application around the drainage tube of the rubber dam such as is used by the dentists, making a complete covering over the dressings, we can wash out the cavity without soiling the dressings at all. The drainage tube is objectionable where it is unnecessary, for the reason that it lessens the strength of the union in the wound. It also increases the difficulty of keeping the cavity pure and sweet. There are cases, I think, in which vaginal drainage is preferable to that from above.

DR. H. O. MARCY, Boston.—There are two or three points in which I shall take exceptions in the matter of detail to the gentleman who read the paper. We certainly all understand that we want to get rid of deleterious, effete, poisonous material. The first question the operator places before himself is, that he does it by operative measures. If he is sure he does it, it is a gratuity to add the danger of the introduction of a tube which itself may carry in infection. If it is removed, I am sure he would agree with me that we have nothing to drain, because we have a healthy non-infective cavity. The question comes, Can we do this? If we

are in doubt, can drainage accomplish that which you desire? Unfortunately, we all have to answer that many times it signally fails when we have trusted to it. If we had an infectious tube, we would destroy the point of infection before we closed the wound. There is nothing better than to be certain that you follow back the infection to its very source. If you have a doubt about the aseptic properties of the cavity, wash it freely with aseptic water. If you have not removed this, the next question you ask is, Does the drainage tube make your patient safer? The drainage tube often fails. When the drainage tube fails, then the only safety to your patient is a reopening of the cavity. I believe that, if we have to use drainage, we should drain in the direction of gravity and not against it; that is what drainage means if we understand it. I am strongly inclined to think favorably of vaginal drainage. I have designed a drainage tube which I will be glad to present this afternoon, two tubes lying in conjunction, with a diaphragm; then you can wash in either way, which I believe is of advantage.

DR. ALBERT VANDER VEER.—I scarcely think there will be presented to us any subject of so much importance as this of drainage in the pelvic cavity. It is with pleasure I refer to one man in this country, one working in the direction of drainage in pelvic abscess. Had he lived he would undoubtedly have carried the subject much further along and to a greater degree of perfection than has been done since his death. I refer to Dr. E. R. Peaslee. At one time his percentage of recoveries was greater than any other man. He excelled Sir Spencer Wells in his percentage of recoveries. His theory was to drain in the direction, that is the natural direction, for the fluid to flow. In introducing the drainage tube at the lower end of the abdominal wound, I believe it is well to put in your suture in such a way that it can be tightened as soon as the tube is removed. I can only call to mind two cases in seventy operations where I had hernia occurring. One was because the patient got up too soon. In closing up the wound, bring peritoneum in connection with peritoneum, fascia with fascia, skin with skin. They must be brought together carefully. We must select according to the cases the form of drainage to make use of.

DR. JOSEPH PRICE.—In conclusion, I meant to discuss actual disease. I was not simply dealing with cases. I have studied most carefully the works of Dr. Martin, Tait, and others. When I consider the mortality of twelve in seventy-two for pelvic surgery, I must say that I do think Dr. Martin needs a little further experience in pelvic drainage. If you refer to Bantock and compare his mortality record, I think you will consider that it is wise to practise the drainage of Bantock, of Tait, and Keith, and not that of Martin.

In regard to hernias, you can pick out the hernias from a class of operators that make long incisions. An incision that is long enough to admit two fingers is quite sufficient. You can do anything in the pelvis with two fingers that you can do with the whole hand. The capillary drain I do not look upon as of very great importance. The frequency of cleaning the tube is of paramount importance. You cannot get along without a nurse with special training. A word with regard to the aspirator. I used it few years ago, I have no need for it now. It is a very easy matter to keep a tube clean, sweet, and dry. I would call

attention to eighty-four cases done in the alleys and courts, without carbolic acid or bichloride of mercury, with one death in eighty-four. I simply challenge the world to beat it. The nurses were all trained to clean those tubes. I have had no experience with vaginal drainage, the other has served me well. The tube is a little sentinel to show when hemorrhage occurs.

DR. WILLIAM H. MEYERS, Fort Wayne, Ind., presented a paper on the

#### TREATMENT OF SUPPURATIVE PERITONITIS,

in which he asserted that he knew of no reason why the same general principles should not be applied to the largest serous sac of the body, where life is endangered from the irritant nature of its inflammatory contents, as holds good when pus has formed in the brain, in the pleural cavities, joints, or cellular tissue; namely, that all these conditions are amenable to surgical interference at the earliest possible moment when we have arrived at an exact diagnosis. He distinctly emphasized that he did not believe that peritonitis was ever idiopathic or spontaneous in its origin; nor that the peritoneum was ever the seat of independent inflammation, but that it was peculiarly liable to inflammation of a secondary character, the irritant proceeding from without, as in wounds, or from one of the organs lying underneath the membrane, or from injuries to the peritoneal apparatus, rupture of hydatid, ovarian or other cysts, the bursting of an abscess, perforation from disease of the hollow viscera—these being the most common causes. Regarding ovariectomy as the parent of peritoneal surgery, he presented a resumé of a few cases in support of the idea advanced by Dr. Barker, where ovariectomy was performed during the progress of acute peritonitis, and quoted Dr. Wiltshire as saying that he was able to show, many years ago, that the presence of peritonitis is not always a bar to operation. On the contrary, it might be the chief indication of the necessity for operation, being itself due to acute cystic changes, and subsiding only on their removal. Accepting this principle, he believed that attempts at radical cure might justifiably be made in proper cases, even in the presence of peritonitis. Referring to the treatment by the trocar and aspirator, he quoted the following letter from Prof. Thomas Anandale, which is believed to be an account of the first authenticated case where the trocar and washing out of the abdominal cavity was resorted to as a curative measure in suppurative peritonitis.

“EDINBURGH, August 16th, 1888.

“DEAR DR. MEYERS:—In the year 1860, when House Surgeon in the old Royal Infirmary of Edinburgh, I was asked by the late Prof. Hughes Bennett to treat a case of suppurative peritonitis in a man aged about 50. Prof. Bennett desired me to place the man in a hot bath, to tap the abdomen under water, to drain off all the pus, and then to pump hot water into the peritoneal cavity until the water came out clear. I carried out the proceeding exactly as he wished me. The patient died several hours afterward. But

this is certainly one of the first, if not the first instance of operative treatment in this disease; and Prof. Bennett appears, therefore, to have anticipated what is now a recognized procedure."

After summarizing four other cases, treated after a similar method, he proceeded to consider the treatment of *purulent* peritonitis by incision. Treves says, True has collected ninety-seven cases of surgical interference with the peritoneum, and this numerical statement alone suffices to show the rapidity with which the treatment has spread. To the above list he would add the following reported cases. Two by Thoroughgood in 1885; one by Clark in 1887; two by Oberst; one by Studensky; one by Robertson; one by Halliday Croom, and finally to this list he added one of his own cases, in which he made laparotomy for wandering spleen lying in a peritoneal abscess; the spleen removed, drainage cavity washed out with carbolized water daily, recovered. To this list might be added ten cases of laparotomy for chronic and acute peritonitis reported by Lawson Tait in his work on Pathology and Treatment of the Diseases of the Ovaries, 1873. He asserted that by far the most frequent cause of suppurative peritonitis was perforation of the vermiform appendix. Where it occurs, the only chance of life lies in opening the peritoneal cavity early and thoroughly washing out and draining. This is the treatment whether the peritonitis be general or local. Considering the method of operating, he thought no definite time could be fixed. The urgency of the symptoms alone was to be considered. Shall the median incision be made, or shall it be made immediately over the cecum? Marcus Beck believed the incision should be over the outer part of Poupart's ligament, and should be three inches in length, which would enable the surgeon to reach the point more rapidly, particularly if deep seated and low down in the cavity. After thoroughly cleansing the abdominal cavity and inserting a large-sized drainage tube, the treatment is complete. He closed his paper by two quotations: the first, from Lawson Tait in his address before the Gynecological Society of Great Britain upon the question of operative treatment in puerperal as in other forms of peritonitis, where he says, "I have now come to the deliberate conclusion that it is an act of almost criminal omission to allow a case of peritonitis to die without the abdominal section." Again in a letter of recent date from Mr. Greig Smith of Bristol, "That in cases of suppurative peritonitis the peritoneum should be treated for a few days in a hot, aseptic solution, by keeping the intestines bathed in an innocuous or mildly antiseptic fluid. Peritoneal adhesions are thereby prevented."

It might seem to us that we had arrived at ultimate truth, but let us not forget that the facts of to-day may be revolutionized to-morrow by some new appliances for research, or some fresh experiments.

*Afternoon Session.*

DR. E. E. MONTGOMERY, of Philadelphia, read a paper on

## LAPAROTOMY IN PERITONITIS,

in which he said: The dread of disturbing the peritoneal cavity has been so great as to well justify the assertion of Wagner that he and his contemporaries had been nurtured in the fear of the Lord and the peritoneum. Peritonitis varies in its phenomena according to the condition producing it. It is recognized that the disease, in the idiopathic form, can arise from exposure to cold and dampness, in which the exudation is limited and likely to be serous. In other forms, exudation is more likely to become purulent, or there is an early secretion of pus. The pus may be free or become encysted.

The largest collections are more likely to occur in the acute disease, and especially in the puerperal and metastatic forms. According to Bamberger, the exudation, in its beginning, is fibrinous, but it is evident that there is a primary pus formation, as the cases quoted by Abercombie and Kaiser show where pus was found after thirty-six to forty-eight hours of inflammation. The removal of pus is as imperatively indicated as when it occurs in pleural or articular cavities.

The presence of pus is indicated by fluctuation, dull percussion, attacks of chills, hectic, cessation of spontaneous pain, sensitiveness upon contact and movement. The diagnosis may be confirmed by puncture with hypodermic or small aspirator needle. Pain is not always present in peritonitis, though pus may be present in large quantities. Non-purulent effusion may be removed by puncture, but suppuration positively indicates laparotomy, as it allows of thorough evacuation of the pus, complete cleansing of the abdominal cavity, separation of adhesions, the removal of exudation, and perfect drainage. It also permits of thorough examination and may enable us to discover and remove the cause of the inflammation.

In perforative peritonitis, the operation should be done in all cases in which collapse has not already taken place, though the result will be more favorable in the cases of traumatic origin. In these, the patient is usually healthy, tissues of the viscus are in good condition, and sutures are readily borne, should resection be required.

The class of cases demanding early attention are those occurring about the region of the cecum. These cases arise generally from perforation of the appendix. Fitz says that thirty-four per cent die within three days. In severe cases, laparotomy should be performed at once; and when gangrenous or perforated, the appendix should be amputated and the stump sutured. The lateral incision is preferable to the median.

In no form of peritonitis has laparotomy proven more valuable



than in the tubercular. Its value was discovered by accident, the operation being done under mistaken diagnosis. The favorable result is attributed to the removal of the serum which serves as culture fluid for the multiplication of the bacilli.

Incision, in these cases, is preferable to puncture, as ascites does not recur after the former, while it rapidly accumulates after the latter.

In conclusion, peritonitis should be regarded as a positive indication rather than a contra-indication to operation.

Death, in the cases of which we have spoken, is certain; we have seen that the operation may save the patient. Why hesitate to give the latter some chance of recovery?

DR. HENRY O. MARCY.—I consider it a privilege to rise and express my thanks to Dr. Montgomery. It is now nearly two years ago since I opened the abdomen in one case for exploration, because of a considerable thickened mass post uterine. The patient had been six months under observation and gradually became worse. The diagnosis had not by any means been certain. I do not suppose it had occurred to any of us that she had tuberculosis, but the exploration showed that the whole peritoneum was studded with these little masses which are so familiar to you all. There was in this instance no especial amount of serum. The abdominal cavity was a little carefully washed out with a sublimate solution. Before closing the cavity, I cut off a little portion and submitted it to Dr. Nelson, who made not only a careful microscopic study, but cultivated the bacilli by artificial process so that there was no doubt about the condition. But strange to me and to you, the patient from that moment began to improve and is now comparatively well.

DR. CLARK.—Dr. Marcy invited me to see a case in which exploratory incision was done very late. Had it been done earlier I think it would have been successful. I have had an opportunity of seeing a good many such cases since, and I hope and have encouragement to believe that it is a feasible operation. Not long since, I saw a young girl who had evidence of phthisis and bacilli of the intestine who, after a very small exploratory incision, draining off all the serum, seemed to get well in a short time. There was considerable serum in the case.

DR. RICKETTS (Cincinnati).—The discussion of the treatment of peritonitis by abdominal section has not taken the stand here that I hoped for. It is a very important subject, and I feel that the death rate of peritonitis is going to be greatly lessened in the next few years by abdominal section. The trouble in these cases is to have the general practitioner understand the gravity of these cases early enough. It is not always the abdominal surgeon who sees the case in the beginning. Many times a bad result is counted against the surgeon, not for any failure on his part, but by failure of the case being recognized at the proper time. I feel that it is the duty of every abdominal surgeon to do what he can in order to get the general practitioner to understand when to call assistance in these cases. I think it is our duty to give them to understand in every way possible the importance of early interference in these cases.

DR. THOMAS OPIE (Baltimore).—A remark has brought to my re-



membrane a case, a single one in my experience, in which I was called in by two physicians, I think on the fourth day after labor. The patient was then in a very bad condition, in a very critical state. I asked immediately if there were not some traumatic origin of the difficulty. They insisted that, so far as they were able to judge, there was none. I insisted on digital examination and found there was a rent in the right side of the cervix in which, by some very remarkable accident—possibly one of the blades of the forceps was not introduced into the os—the uterus was torn very severely. Four fingers of my hand would go into a deep rent. I said to the gentlemen that I thought she was almost moribund, but something was left and that was laparotomy. Appreciating the gravity of the situation, it was insisted by the friends that we should give this one chance. I opened the abdominal cavity and found a large quantity of serum and many adhesions. The patient died ten or twelve hours after the operation. I mention the case because it was one in which I think it was right to give her one chance out of a hundred.

THE RELATION OF THE ABDOMINAL SURGEON TO THE OBSTETRICIAN  
AND GYNECOLOGIST.

DR. A. VANDER VEER, Albany, N. Y.—He said that in studying the constitution, by-laws, and make-up of this Society, he observed that there were brought together elements which, if properly harmonized and “the principle of unity and research” preserved, cannot fail to benefit ourselves as individual members; and also that the influence which will go out will be for good to the profession throughout this broad land. He would endeavor to bring out the points of the speciality which he represented in such a manner as might result in mutual good to us all. He had been led to ask the question, Is there such a department as abdominal surgery in our profession? That was a grand union when surgery, freed from its barbarism and ignorances, and no longer associating with or being part of the “barberous company,” united in honorable wedlock with medicine, to establish that household in the healing art from which many of us who are here to-day have seen springing and going out the most of the grand specialties that have done so much for suffering humanity. Prof. Virchow said, “within twenty-five years the great host of specialties has developed; and it would be vain, anyhow fruitless, to oppose this tendency; but I think I ought to mention it here, and hope that I shall be certain of approval when I say that no specialty can flourish which separates itself entirely from the common course of science; if it do not take the other specialties into account, and if all the specialties do not mutually assist one another.” All of this positive and signal advance has been made, not in a spirit of hostility to general medicine, but to render aid to one another, as we work against disease. Surgery has not accomplished it entirely alone; she has had the assistance of true medicine, but in doing what she has done, she has undoubtedly advanced medicine in a very great degree. Of those who remember the crusade which was early

made against ovariectomy, which was but the beginning of abdominal surgery, and who cherished the belief that the latter is not yet a distinct part of general surgery, the question is asked, Why is it that special works are being published on abdominal surgery alone and meeting with ready acceptance by the profession? Abdominal surgery may be said now to be a part of the specialties of obstetrics and gynecology. Has not the work of such men as the late Prof. S. D. Gross, Tait, Parkes, Sands, Weir, Senn, Greig Smith, Bull, and a host of others now living, demonstrated the fact that abdominal surgery has become a specialty? If we inquire into the manner of its development, we find that it has been the outgrowth of work done by the general practitioner. The elder Gross once stated that his experience and observation had taught him that they made the best specialists who, having engaged for a number of years in general practice, finally confined themselves to that special department for which their studies, inclinations, and clinical observations and experiences had best fitted them. These words apply with peculiar reference and force to him who attempts to practise as an abdominal surgeon. The operation for removal of a simple uncomplicated ovarian cyst is probably the easiest operation that occurs in all the range of the major operations in surgery, but when we come to the operation, embarrassed as it may be by all the complications now known to us, it becomes one of the most difficult of all operations. Notwithstanding all that has been done within a short time by obstetricians, gynecologists, or abdominal surgeons to advance abdominal surgery, we are yet at the half-way house on the road leading to complete success, for not yet is made clear the best manner of operating, the best place for the operation, the best way of dealing with all the various complications. Our entire profession must yet be taught much that pertains to abdominal surgery, and it must to a great extent be done by men of creative genius. What we need is not the elaborate presentation of theories, but the offering of practical papers that will give facts and the accumulated wisdom and experience of honest workers.

Specialism in society work and in journalism should be encouraged by the profession at large. As abdominal surgeons we should move carefully, but at the present time we must be active and on the alert to make use of the constantly increasing material that presents and from which to draw our practical deductions. In this new Society we have formed a combination that illustrates well that trite but true saying, that in union there is strength. The work of the obstetrician is the most arduous, important, and responsible of any part of our profession. The obstetrician and abdominal surgeon should work in perfect harmony. The latter bears to the former much the same relation that the general surgeon does to the neurologist in his brain surgery. The obstetrician, like the neurologist, will make his diagnosis, but the surgeon will

often be called upon to do the operation. The work of the abdominal surgeon will necessarily lead him into the field of gynecological practice; that is, the major portion, not the minor part, of gynecology. There are many good gynecologists who are successful in everything that pertains to their specialty aside from doing an abdominal section, and this they assign to some one else. I believe it requires years of the hardest study and effort to become a thorough abdominal surgeon; the number must ever be somewhat limited.

Finally, is it not a fact that there is some danger that abdominal section may be carried too far if made too much of a specialty? Have we not in this Association the conservative combination? That our new Association is moving in the right direction, witness the new obstetrical and gynecological society that has just been organized in Vienna, and of which Prof. Breisky has been elected president.

DR. S. C. GORDON, of Portland.—I hardly know how we can discuss a paper like this except to assent to what has been said. The paper has certainly covered the ground. A discussion in order to be interesting must take a departure from the subject discussed. Abdominal surgery in my opinion is now taking quite a different turn from what it formerly did. Formerly we believed that everything must be done; that we must have a special hospital and special accommodations. My own experience justifies me in saying this that, while we must take every possible precaution, we must not allow a patient to die because we cannot remove them to a special hospital. The question of special hospitals is no longer a *sine qua non*.

#### THE SURGICAL TREATMENT FOR LACERATIONS OF THE PERINEUM AND THE PELVIC FLOOR.

By W. H. WATHEN, M.D., of Louisville.—He spoke especially of the surgical treatment of lacerations or injuries of the muscular and aponeurotic structures that form the floor or the diaphragm of the pelvis. He said there is probably no other subject in gynecology about which so much has been written that is of no real value, and that a relatively simple operation had been made to appear so complicated that it is seldom correctly performed. He passed by much of the immensity of pseudo-scientific rubbish, and took a practical view of the subject.

He said that the muscles and the fascia in the perineum give it strength, and when they are lacerated, no operation that does not primarily tend to reunite the torn ends is logical, or will be followed by permanent good results. We may have prolapsus of the uterus, with rectocele and cystocele, resulting from subcutaneous rupture of these structures with no laceration or injury of the mucous membrane or other parts of the perineum. This condition is usually not diagnosticated by the attending physicians, and the woman is subjected to various plans of treatment to hold the parts

in position and relieve the annoyance from pressure, weight, etc., all of which give but little relief; nor can we cure her except by an operation to bring together and reunite the torn ends of the muscles and fascia.

He said that when any or all of the perineal union of the muscles, or of the fascia, is lacerated, unless at once united and held together, the muscular contractions continue to widen the distance between the torn ends, so that the vulva gradually becomes enlarged laterally. The extent of this lateral separation is governed by the degree of laceration and the length of time since it occurred. If the above is correct, then no operation will succeed that fails to bring these torn ends together so as to reunite them. This is a simple question that holds good in all operations to restore the perineum in complete or incomplete ruptures, and if we are controlled by it, and are familiar with the technique of the operation, success will nearly always crown our efforts.

He did not know of any operation that is not faulty in this particular, but the operations that accomplish this purpose best are performed by Tait, Duncan, Simpson, Langenbeck, Saenger, Hart, and Barbour; but if he understood their methods correctly, they do not fully appreciate the importance of dissecting up and uniting the muscles and fascia. This cannot be done by the usual method of denudation, but is accomplished by a splitting process. The incisions should go deep near the anus on the lateral borders of the vulva, and the recto-vaginal septum should be split through the connective tissue between the vaginal and rectal layers, so that the vaginal flap may be thick enough to prevent sloughing.

He did not think it necessary to give the reasons why the primary operation should be performed, as there are now but few men of recognized ability in obstetrics or gynecology who are opposed to it, and we are not a little surprised to find in this list the name of the distinguished professor A. Charpentier, of Paris. His objections are illogical, and are not sustained in actual practice when the operation is correctly done. He had done the primary operation often without a failure; in fact, he thought the success is usually more perfect than in the secondary operation. The torn ends of the muscles and fascia are now easily held in apposition, and unite within a few days. He reported a typical case in which he had operated a few weeks ago for his friend, Dr. —. The woman was delivered of a large child when sixteen years old, and was torn through into the rectum for over an inch, and the vaginal wall and the connective tissue were torn two inches further up. The operation was done about one and one-half hours after delivery. He used fifteen sutures in the vagina and the perineum. The vaginal tear was united by silk sutures, and the perineal by silver wire and silk worm-gut, using only one silver wire as a base suture to hold together the ends of the sphincter muscle. The sanitary and hygienic surroundings were not good,

and she had but little after-attention. She passed her urine, the vagina was washed out but a few times, and her bowels moved daily after the second day. At no time was there any pus, and the entire laceration healed by first intention.

If the operation is well done, he doubts the necessity of drawing the water or tying the legs. Nor is it necessary to wash out the vagina often. The urine and the lochia are not poisonous, especially after the second day, if strict asepsis has been observed in the operation. Where any form of an aseptic animal suture is used, the needle should be introduced and brought out just within the lower or external edges of the raw surfaces, so that when they are united the suture will be concealed or buried in the tissue. Sometimes a few superficial sutures will be required. The suture should be so introduced as to be entirely covered by the tissues, and to bring the surfaces into even and exact apposition. If the sphincter ani is ruptured, he always uses the base suture, after the fashion of Emmet.

He does not destroy any tissue except jagged edges in some complete ruptures; the dissected part assists in protecting the wounded surface against the dangers of infection from the uterine or vaginal secretions, and also increases the thickness of the perineum. He had never had a recto-vaginal fistula after an operation for complete ruptures, nor did he believe it will often occur, if the operation is correctly done, after his method.

DR. MARCY read a paper upon

#### THE PERINEUM, ITS ANATOMY, PHYSIOLOGY, AND ITS RESTORATION AFTER INJURY.

He reviewed carefully the teachings of the text-books and the views held by various authors whose writings are found scattered through the medical journals. These he supplemented by a series of photographs of dissections of his own works, from which he verified, in large measure, the teachings of Savage. He especially emphasized the importance of a better general knowledge of the anatomy of the pelvic structures and pointed out where the teachings of many of the text-books are in error in important particulars.

Dr. Marcy considers the floor of the pelvis, in its normal relations, as greatly strengthened by the transversus perinei which not only aids the levator ani in all its functions, of which, indeed, it may be considered a part, but that it holds in a fixed relation the pubo-coccygeus—the muscular loop which extends from the pubes and grasps, so to speak, the anal opening, crowding it forward upon the vulvar outlet and this in turn upon the urethra. This preserves the anterior forward curve of the vagina, and upon it depends the intra-folding of the vaginal muscle, making the letter H in section.

Dr. Marcy claims that this peculiar disposition of the lateral



intra-folding of the vaginal canal is the chief factor which gives to it the elastic support, quite sufficient to retain the cervix in normal position. The transversi perinei sundered and retracted towards their origin, the plane of the constrictor group is so elevated that the vulvar opening is drawn backward; eversion of the posterior wall now ensues, with its more or less complicated train of nervous and pathological complications. The injuries of the fasciæ were also carefully considered, but relegated to a position of importance quite secondary to that of the muscular groupings.

For the better understanding of the various methods recommended for the restoration of the pelvic floor, Dr. Marcy projected upon the screen a large series of illustrations and analyzed them, thus pointing out the modifying influences which have led up to the later modes of operation. Although the deep muscular floor of the pelvis is the avowed object in restoration, the methods, almost without exception, are confined to a dissection of the mucous membrane covering the original muscle and a refreshing of the vulvar cicatrix. This, for the cure of rectocele, produces a folding in of the vaginal muscle in varying pattern, and by deep stitches, taken almost at random, there is brought together in the median line the connective-tissue raphe. While it is not denied that this may sometimes give good results, as a rule the cure is not complete and is faulty, in that the reconstruction is defective.

The object clearly should be, a restoration to former condition, and this means a reunion of the sundered muscles and fasciæ, instead of puckering the deformed sheaths of the vagina, at most an easily distensible canal. To accomplish this, Dr. Marcy devised his operation, which surely is to be commended for simplicity and effectiveness. With two fingers in the rectum to put the parts on tension, he detaches the vagina in its posterior third from the vulvar outlet and carries up the separation in the recto-vaginal space as far as the upper border of the rectocele and laterally into the sulci. The flap thus made is lifted by an assistant, then the surgeon carries a large curved needle deeply into the posterior fasciæ laterally and in a continuous stitch (quite unlike the over-and-over stitch). with animal suture, he closes, from side to side, posterior to the vagina, the stretched fasciæ. Having in this way remedied the rectocele, the sundered, separated ends of the muscular group are approximated by a continuation of the deep-buried suture. The external wound is coapted by a fine continuous suture taken as a "blind stitch," which is also a buried suture, and the surface is covered with iodoform collodion.

Dr. Marcy prefers to use the deep continued stitch by means of threading the suture through the eye near the point. The needle is then introduced thus threaded, is carried through, the suture



unthreaded, the opposite end of the suture threaded, and the needle withdrawn, carrying with it the suture. This makes an *even, double, continuous* stitch and secures a much better closure of the separated parts. If the parts seem tense, which is rarely the case, a double pin is placed outside the sutured structures (formerly described by Dr. M.) to hold the parts, without strain, at rest.

When the laceration is complete, Dr. Marcy divides the rent laterally and, in the manner already described, coapts with a fine, buried, continuous animal suture the rectal and vaginal sides and then proceeds to bury his deep sutures as in incomplete lacerations. He showed, by quotations from his previous publications upon the subject, that he was the first to practise and recommend the use of the deep-buried animal suture in perineorrhaphy, published by him in 1883, although this practice has been attributed to Schroeder, who first published his method in 1885. Dr. Marcy uses tendon from the kangaroo as quite superior to cat-gut; this is prepared so as to be entirely trustworthy, but emphasis is made upon special caution to render the operation aseptic, in this portion of the body especially difficult, and without which the operation will be quite likely to fail of cure. He always practises the greatest precaution and has had most excellent results.

*Second Day.—Morning Session.*

DOUBLE OVARIOTOMY DURING PREGNANCY.<sup>1</sup>

By DR. W. W. POTTER.

DR. VANDER VEER.—Mr. President, Dr. Potter has presented just that kind and class of cases we ought to have given us. This is an exceedingly rare case. I have looked up the subject somewhat hastily and find ninety-six cases reported where operation has been done during pregnancy—not double ovariectomy. It is an operation perfectly justifiable. The condition of pregnancy does not seem to interfere very much with abdominal operations. The case he referred to I operated on about three months ago. I had a letter from the physician in charge saying that she is progressing nicely, but I do not care to have my case go on record yet.

DR. E. E. MONTGOMERY.—I was very much interested in this case of Dr. Potter's. Two years ago I read a paper on ovariectomy during pregnancy. I was able to find a record of sixty cases, and showed that pregnancy had very little influence upon the mortality of the operation. In all those, there was not one in which the operation was done upon both ovaries. In the report of Dr. Mundé, I think, it was claimed that the woman was not likely to go through gestation with both ovaries removed. This paper of Dr. Potter shows that this theory is not true. I had thought, until Dr. Potter made this report, that my case was the first. I performed an operation last November, removing both ovaries at about the third month of pregnancy. The patient was confined at full term, the child weighing eight pounds. There were no unfavorable symptoms whatever. The theory of Tyler Smith was

<sup>1</sup> See Original Articles in this number.

that the ovaries directed the contractions of the uterus in labor. These two cases having gone through the full term, and having, at the completion of gestation, the labor entered upon and conducted in its normal manner, indicates that this theory is not perfectly correct. We must look for some other cause for the induction of uterine contractions at this time.

DR. MAXWELL, of Keokuk.—There is one other point that is interesting, that is, that the patient operated upon nursed her child after gestation had been completed—another fact that lactation is not a substitute for menstruation.

DR. BYRON STANTON, of Cincinnati, read a paper on the subject of

#### INDUCED PREMATURE LABOR.

He referred to the arguments which have been urged against this procedure, based upon the ground of its morality and usefulness—arguments that would apply with equal force against all obstetric operations. He thought that, like the obstetric forceps and version, it will do much to do away with craniotomy and Cesarean section. He thought that the arguments that the mother is exposed to some risks that she does not encounter at term, such as imperfect development of uterus, incompleteness of the changes which Nature effects in the maternal passages during pregnancy, the frequently delayed detachment of the placenta, more frequent malpresentations, etc., were more than met by the advantages gained by the smaller size of the child, and more yielding and compressible head, and consequently shorter and safer delivery. He also referred to the arguments against induction of labor, on account of the great infant mortality, some recent writers being quoted as holding that such intervention is so dangerous that the operation should give place to Cesarean section—an operation that has rapidly reduced its mortality. He thought the conclusion not justified by statistics.

The points involved in determining the question as to the resort to the operation are :

1st. Whether the case is one in which delivery at term will involve the death of the infant, and subject the mother to much dangers and suffering, and yet permit delivery at seven or eight months.

2d. Whether the conditions are such that the life of the mother will be imperilled by continuance of pregnancy to full period of gestation, by hemorrhage, or some intercurrent disease, or by aggravation of some chronic ailment which can be averted or removed by earlier delivery; and

3d. Whether there is a history of infant fatality in several successive pregnancies at some regular time after the age of viability.

Dr. S. considered the different conditions which might call for interference, contracted or deformed pelvis, unavoidable hemorrhage, eclampsia, persistent vomiting of pregnancy, etc. He referred to the difficulty of fixing extremes of measurement that

would limit the operation. Absolute limits cannot be fixed, the propriety of the operation being determined as much by the size of the fetus as the contraction of the pelvis. The difficulties of labor depend to some extent upon the character and location of the deformity. Delivery is more easily effected through a flat pelvis than through a generally contracted pelvis, with the conjugate of the same measurement. Deliveries are easier, other things being equal, when the contraction is at the superior strait than at the inferior strait. If both straits are contracted, the difficulties are much increased, for uterine action might overcome resistance at one strait, but be unable to overcome resistance at both extremities.

There are two difficulties in these cases, one is in determining the period of gestation, but he thought, counting from the last menstruation, and the period of quickening taken in connection with the size of the uterus, will give a sufficiently accurate estimate in nearly, if not quite all cases. Another difficulty is the determination of the diameters of the pelvis in living subjects. Pelvimetry is not an exact science, and the instruments devised for measurements of the pelvis do not give exact diameters; he thought a well-practised finger as good as instruments, and would give sufficiently accurate measurements.

Reference was made in the paper to the differences of opinion among obstetric writers, in regard to induction of labor in puerperal convulsions, persistent albuminuria, placenta previa, obstinate vomiting of pregnancy, etc. He thought it not necessary to consider at full length all of the conditions which might call for the operation, but gave the general statement that whenever the condition of the mother or child renders the continuance of pregnancy to full term dangerous to both or either of them, and the danger can be removed by delivery in the seventh or eighth month without the substitution of a greater danger, the induction of labor is not only justifiable, but is a duty of the physician. If it is not indicated to save the life of mother or child it is criminal.

He next considered the methods of inducing labor, of which there are many.

Medicines acting through the general system were condemned. All oxytocics are unsafe for inducing labor, so also are those methods that act by reflex irritation. Some method acting directly on the uterus is to be preferred, and only those are to be thought of that respect the integrity of the membranes. Electricity in its various forms has proved disappointing. The hopes that were at one time entertained have not been borne out by experience.

Kiwisch's, Kluge's, Cohen's, Hamilton's, Lehman's, Schiele's, Krause's, and other methods were described, preference being expressed for Krause's method—the introduction and retention of a

flexible bougie between the membranes and uterine walls until uterine action is excited.

In placenta previa he would use tampon in vagina, or a Barnes' dilator in the cervix, until sufficient dilatation is effected to permit version.

All methods that bring on uterine action by evacuation of the liquor amnii are to be avoided.

After labor, the child demands especial attention. It must be kept continuously warm by artificial warmth. The bath usually given to the new-born *must be omitted*. Early feeding must be resorted to.

DR. THOMAS OPIE.—I think the attention of physicians ought to be called to the importance of the principle of taking advantage of that period of intra-uterine life in which the sutures are yet wide and the bones not well developed, and in which we can have this very desirable condition of moulding as the head is passing through the canal. It is remarkable the ingenuity with which nature moulds the descending head to conform to the channel through which it must pass, but this is a process which requires an amount of time proportionate to the difficulties to be overcome. If the contraction is great, the time must be lengthened. If the contraction is too great, then delivery must be impossible if the patient has gone on to full term. I wish to speak of the great importance of taking advantage of the undeveloped condition of the head of the child. We will find the shape of the head indicating the direction of the force, and so distinctly pointing out what has been the difficulty and cause of delay. We have to deal with two distinct classes of cases. In one class, after inducing labor, we can wait for Nature to carry it through, but in cases of eclampsia and placenta previa delivery must be accomplished at once. Still we should take advantage of the condition of the head, for, with the forceps upon it, we find it still qualified to adapt itself to the canal, but in a better way than at full term. In cases of eclampsia, I think many lives are lost on account of delay. It has not been my experience that the operation of dilating the uterus is either difficult or dangerous. The introduction of hard-rubber dilators will give you the beginnings. You will soon find that, after introducing one after the other, the contractions begin, whereas, with the bougie, it might be delayed two or three days. I merely introduce these as a forerunner of Molesworth's or Barnes' dilator, until I can get in two fingers; and then I am able to introduce Taylor's narrow-blade forceps, and with these dilate the os sufficiently to apply the Tarnier forceps.

I would emphasize what the doctor has said with reference to the question of ergot. There is one point about ergot which should be thoroughly established in the minds of the whole profession—that there is great danger to the child from its tonic action, and as far as the mother is concerned, we start a force which we cannot control.

DR. A. L. SMITH, of Montreal.—I wish to urge the induction of premature labor in bad cases of vomiting in pregnancy. I have a record of eighty cases of death in this comparatively simple condition. I know of one large family of beautiful girls in Montreal, every one of whom was born at seven months.

THOMAS OPIE, M.D., of Baltimore:

IS THE FREQUENT USE OF FORCEPS ABUSIVE?

There is a remarkable unanimity of opinion in the teaching of recent text-books, medical journals, and medical societies on this subject.

They favor the more frequent use of forceps, and condemn the so-called expectant management of labor. The axiom "meddlesome midwifery" has beaten a retreat before the clamor for the forceps.

The name of forceps points to its most striking characteristic, its prehensile power. Three distinct eras may be traced in this branch of medicine, having their pivotal influence in the forceps.

1st. The introduction of the original forceps in 1700; 2d. The important invention by Levret of the pelvic curve in 1747; and 3d. when in our own times, 1877, Tarnier invented the traction-rod attachments to the forceps.

Baudelocque arranged methodically the pelvic positions and presentations in 1791. Prior to that time the sovereign powers of the forceps were greatly abused. Their introduction was a matter of haphazard and convenience. Even in the days of Ramsbotham there was a bitter controversy as to which was preferable, forceps or craniotomy.

A recent writer says "the forceps are simple in their construction, easy of application, wonderful in power."

The successive stages of their development have, on the contrary, made them far less simple in construction; they have a wider range of application and wonderful powers for life destroying, as well as life saving.

All surgical operations are dangerous; it is equally true that elements of danger lurk about all cases of artificial labor.

To substitute traction for contraction, to introduce and use instruments in the genital tract, indeed to substitute art for nature's peculiar and inimitable methods is always dangerous.

The most unanswerable argument against frequent use of forceps comes from the gynecologists. Good surgeons are relatively few, and delicate and dangerous operations in that branch are relegated to specialists among them, but most practitioners think themselves able to cope with any forceps case. If skill in the use of forceps did not exist prior to Baudelocque's classification, how can we accord this virtue to operators with the forceps in these days, who are ignorant of the fundamental principles and admirable system upon which the present science of obstetrics rests?

The opportunities for the student of obstetrics are meagre; and granting he is thorough in the theory of this department, he forgets it before he is intrusted with a practice. No wonder if he makes a medium-rate obstetrician, and sneers at the mechanism of labor.



To determine between the high forceps operation and version, to diagnose or rectify position above or at the brim, to apply the forceps accurately and conduct safely the little passenger through the passage way, are among the great achievements of medical science.

The high forceps operation is a critical one, and the operator should be chosen with as much care as for an ovariectomy.

The low operation is not so simple as to be left to "any tyro."

For practical purposes, it answers to designate all kinds of forceps in the order of their seniority of invention, as follows: the straight (Chamberlyn), curved (Levret), and traction-rod (Tarnier).

It is high time to turn a deaf ear to the many names of individuals attached to forceps, because of various modifications of lock, blades, or handles. They obscure the horizon of the subject; they distract attention and confuse the object, which, like that of the practice of medicine in all its departments, is life saving, cure.

There is but little need for straight forceps. The traction-rod forceps alone serve our purposes with satisfaction, at and above the superior strait.

The welding and unification of the traction-rod and curved forceps in Tarnier's latest style well-nigh disarms criticism. It is a great achievement; one on which we may congratulate this age.

Think of the struggle, and pity the sufferings of the man, woman, and child as the operator toils away with the straight forceps at the inlet. The pelvic curve added would only qualify, not remedy the situation.

Still another modification, and science has triumphed. The traction-rods, with relative ease and far less force, pilot the head through the upper narrows, and thence into the safer region of the low operation.

If we could only persuade operators of the salvation of traction-rods covering all the indications for traction at the superior strait; of making traction during the pains, rhythmical, direct, slow; of supplementing, not superseding nature; of utilizing all the vis-à-tergo and only just enough of his power to bring the combined forces to the normal, and that all above that is abuse.

If we could get them to be careful, to halt, prospect and protect the sphincters of the uterus and vagina, and to beware of rapidly unloading the organ, we would have a reform that would be as life-saving stations all along the passage way.

I am fully convinced of the ability of the forceps to help. I protest that they should not be used regardless of the factors of delay.

I plead for their judicious use.

As to the indication that the os should always be dilated or dilatable, judgment often goes to protest.

About two years ago, I was in attendance upon a most tedious, nervous, and impatient primipara, in whom the os was only three.



quarters dilated; after a boisterous struggle of two nights and two days, slowly, almost imperceptibly, the dilatation increased. The patient's qualifications for abuse, however, grew more rapidly; I came in for a large share of it. She demanded chloroform and instrumental aid; the husband seconded her claim. The traction-rod forceps were applied; she was delivered in two hours under chloroform. A febrile trouble and tardy convalescence ensued; some months afterwards she became the patient of a clever gynecologist. His operation told the tale of the "blundering obstetrician." I have never had an opportunity since to call the patient to an account.

One of the most important requisites for a good obstetrician is "to know how to wait and do nothing." In the first stage, he must wait a long time, especially in primiparæ, before using forceps; indeed, he is not warranted in resorting to it, except the mother or child is in jeopardy.

Far the most frequent use of forceps is in the second stage, and we are told "any tyro" can perform this operation. Nature can generally do it better and safer, if not so quickly. Time and patience cannot be too much extolled as virtues during the whole of labor.

Let the attendant occupy the position of "watchful expectancy." Remove reflex disturbance, sustain by proper food, guard against fatigue, secure rest, assure and cheer, utilize the simpler methods of assistance; let nature do all she can before we resort to forcible measures. I have lately limited the number of my forceps application by manual pressure, according to the plan advised by Kristeller, of Berlin.

This and other manual helps are more in accord with nature's laws, and should be made use of. Instead of using forceps to curtail the sufferings of labor, we had better consider the very great efficacy of morphia, chloroform, and chloral.

As an isolated indication, it is doubtful whether pain ever warrants forceps use, nor would such cases necessarily end with less suffering after immediate delivery.

It is a common occurrence for women to demand that the accoucheur shall do something to help the physiological phenomena of labor. Dr. Robert Barnes denounced this as an old and bad practice.

Anesthesia is the best treatment for cases of excessive nervousness and emotionalism in labor, not the forceps, as has been advised. Chloroform during the pains often makes labor of this sort more normal.

The nervous element is often misleading; it is not always the patient who is most noisy who suffers most, nor is it safe to be influenced by her cries for more chloroform or the forceps.

The loss of time by an accoucheur is not to be accepted as a war-

rant for resorting to instrumental delivery. We fear in these times of go-ahead-iveness this is a common source of abuse.

The forceps is a life-saving instrument for both mother and child, whether we are dealing with the first or second stage of labor, provided they are used judiciously and skilfully.

There is much difficulty in obtaining exact statistics as to the frequency with which the forceps are used. The figures vary with the country and with the operator. Ploss' tables show a wide difference in frequency of application in German, Swiss, and Russian maternities. In an aggregate of 333,054 labors, the forceps were applied 1,975 times, or 1 in 30 applications.

Ploss' tables for England make the least number of applications for any operator, as 1 in 3,878. The operator with the greatest relative number was 1 in 7.8. Jacquemier's tables give 20,517 labors and 96 forceps cases, or 1 in 214.

These tables embrace a period from 1792 to 1862. Those were the days of the swaddling infancy of obstetric knowledge, when method was just inaugurated by Baudelocque. Still they are useful in the light of history, in setting forth the wide range of opinion as to the frequent use of the forceps in those days.

Galabin says no one would now recommend so sparingly a use of forceps as 1 in 200. He says that the statistics of St. Thomas' Lying-in Charity appear to show that a forceps rate of 1 in 16 to 1 in 18 deliveries does not endanger the mothers; but wider statistics are desired.

The Maternity Hospital, Philadelphia, shows the number of forceps applications in 1886 to have been about 1 in 8.

The Columbia Hospital, Washington, D. C., has had an average of about 1 in 20. At the Maryland Maternity Hospital, Baltimore, we have used forceps 142 times in 1,495 deliveries, or 1 in 9.4.

The number of forceps applications at Vienna Lying-in Asylum during the past year was 2%.

In my private practice, including consultation work, the average has been 1 in 10.5. I have found by inquiry of many practitioners that their average in private practice ranges from 1 in 4 deliveries to 1 in 25.

It is to be deprecated that there is not a greater tendency to specialism in obstetrics. No man, ignorant of the mechanism of labor, and who does not know the rules for using the forceps, should ever undertake a high forceps operation. That clumsy, untutored, and unskilled hands do harm with the forceps even at the lower strait cannot be denied. As long as this unfitness and want of training for obstetric operations exists, it will be humane to withhold our advocacy of a still more frequent use of forceps.

Nature has been defined as "the good-will of God expressed in facts." We should crave her facts and imitate her. We will be

adverse to substituting art for nature, so long as man is inferior to his Maker, except we act because of danger to mother or child.

We will not detain you with the enumeration of the many accidents and injuries which befall the mother and child at the hands of the forceps. Suffice it to say they embrace a large part of every recent work on gynecology.

We sadly need statistics to settle the wide differences among obstetric operators with the forceps as to the frequency with which they may be used. Our judgment is that the average of one in fifteen or sixteen applications of forceps as suggested by Dr. Galabin is a fair one. The pendulum, having properly left the position of too great infrequency, has gone to an unwarranted extreme in point of frequency.

The obstetrician would do well to be found in the good company of the physician in the prevention of disease, the surgeon in his conservatism, and in line with the modern sanitarian.

#### DISCUSSION.

DR. JOSEPH PRICE, of Philadelphia.—For years I condemned the use of forceps in unqualified language. During my hospital experience, I singled out three hundred cases of labor, in twenty-five of which forceps had been used in previous labors. In none of the twenty-five cases could I find the slightest indication for the use of forceps. I know that in skilled, trained hands, it is a valuable instrument. I am glad the author has advocated the Tarnier forceps, and has called attention to the Taylor narrow-blade forceps. In one case—a very ugly patient—in five successive labors, evisceration had been performed. She finally agreed to submit to induced labor, and thereafter three living children were delivered, with the traction rod and Sims' forceps. The Sims' forceps have a great advantage in the greater diameter of the blade. I have gone to three times one hundred cases without taking my forceps out of the bag. In a discussion on the use and abuse of the forceps in our Obstetrical Society, one man admitted that he could not afford to attend poor women for five or ten dollars, and not to use forceps. It was five or six months before he came back to the Society, so thoroughly was he rebuked.

DR. TOWNSEND, Albany.—It is important to bear in mind that in labor the first stage is governed by the sympathetic nervous system; in the second stage, by the cerebral spinal system. I do not believe the second stage should be allowed to continue longer than four hours. The exhaustion due to the strain on the cerebro-spinal nervous system is such as to warrant a speedy termination of labor.

#### *Third Day.*

#### AN UNUSUAL CASE OF SUBSEROUS UTERINE FIBROID.

By HAMPTON E. HILL, of Saco, Maine.—Miss U. H., American, age 40 years; height, four feet eleven inches; much emaciated; abdominal wall and lower extremities edematous. The ribs projected outwards; the tumor was very large for so small a woman.

The abdomen had a very firm feeling, the uterus was about the normal size, and slightly movable. There was a soft, fluctuating mass to the left of the uterus, and to the right a firmer feeling mass by vaginal examination. The general impression given by the examination led to the diagnosis of an ovarian fibro-cyst. The operation was made on January 3d, 1888, with the assistance of Drs. J. E. Kimball and F. E. Maxcey, of Saco, Me., and Dr. M. C. Lathrop, of Dover, N. H. All aseptic and antiseptic precautions were observed. Upon making the abdominal incision, the tissues were very vascular. When the tumor was exposed, it was found to be a solid fibroid. The tumor was firmly adherent to most of the abdominal wall, and the adhesions were a network of blood-vessels. The hemorrhage was unusually severe. Twelve pairs of hemostatic forceps were in use before the operation was fairly begun; then the vessels were secured by ligation and torsion as fast as they were divided. Many ligatures were left on the abdominal wall.

The omentum was adherent in a vascular mass over the upper part of the tumor. The pedicle was secured by passing an *écra-seur* chain underneath the tumor and around the pedicle, and the tumor cut away from the pedicle. The lower end of the tumor was then raised and drawn downward, and then a broad mass of vessels running into the back of the tumor from the mesentery was secured by long clamp forceps, and the tumor divided from it. It was then removed from the abdomen, and the mesenteric vessels secured in three ligatures.

The pedicle was ligated with strong silk. A cyst of the left ovary, the size of an orange, was then tied and cut off, the abdomen cleansed with hot water, a drainage-tube left in, and the wound closed, dressed, and the patient placed in bed, in a collapsed condition. Brandy had been used freely under the skin during the operation. Drainage was very free during five days. Tube removed in six days. There was an accumulation of fluid afterwards. Forty ounces were removed on the eighteenth day, after which the patient improved rapidly, and made a good recovery. The tumor measured in length sixteen inches; in width, fifteen inches; in thickness, ten and one-half inches. The weight was forty-seven pounds. The abdominal incision was extended from near the pubes to the ensiform cartilage.

DR. EDWARD J. ILL, of Newark, N. J., read a paper on

#### DESMOID (FIBROID) TUMORS OF THE ABDOMINAL WALLS.

He cited two cases, in one of which one hundred square centimetres of peritoneum was removed. In both cases the peritoneal cavity was opened. One case was operated upon by the method of Saenger. Both cases recovered. The writer then spoke at length on the anatomy, pathology, etiology, symptomatology, diagnosis, and treatment of these rare forms of tumors. He drew

especial attention to the symptoms produced by the contraction of the abdominal muscles on the tumors. He dwelt at length upon the differential diagnosis between this form of tumor and enlarged spleen, enlarged kidney, subcutaneous or subperitoneal tumors, uterine fibroids, solid tumors of the ovary and round ligament, adherent displaced kidney, cyst of the urachus, dermoids of the abdominal walls, etc.

The prognosis of true desmoid is good. He has collected twelve cases of this form of tumor occurring in the United States. Ten of these occurred in females between the ages of twenty-three and forty-one years. In five of these cases, the origin of the tumor was given as the fascia transversalis. In six cases, the tumor was so closely adherent to the peritoneum that it became necessary to open the peritoneal cavity in removing them. In two of these, excision of a large portion of the peritoneum became a necessity.

DR. GEORGE H. ROHE, of Baltimore, by invitation, read a paper on

#### DISEASES OF THE SKIN ASSOCIATED WITH SEXUAL DISORDERS IN THE FEMALE.

The various dermal lesions found in connection with sexual disorders in women may be divided into six classes, as follows: 1, angioneuroses; 2, disorders of the glands; 3, inflammations; 4, pigmentary hypertrophies; 5, neuroses; 6, vascular dystrophies.

In a paper by Prof. Ernst Börner, published as one of the current series of *Volkmann's Klinische Vorträge*, neurotic tumefactions as accompanying phenomena of menstruation and the climacteric are treated at some length. A considerable number of cases are related in which swellings of the lips, cheeks, eyelids, feet, hands, and other portions of the body occurred contemporaneously with the menstrual periods, or were troublesome during the disturbances classed under the designation "the change of life." In many of these cases, there were other neurotic symptoms, such as headache, neuralgia, etc. The relation between the swellings and the menstrual periods is very clearly shown by Börner. In the experience of Dr. Rohé, moderate doses of tincture of iron will usually cause prompt disappearance of the tumefactions.

Sometimes the swelling is accompanied by local heat, redness, tingling, burning, or itching, and slight febrile disturbance. All of the various forms of polymorphous erythema may be assumed, from the fugacious, flat, red spots, unaccompanied by subjective sensations, to the large painful bosses which characterize erythema nodosum. A case was referred to in which distinct exacerbations occurred coincidently with the beginning of menstruation.

Urticaria is not infrequently connected with uterine disturbances. The aggravating itching is extremely resistant to local medication.

Lawson Tait has recently drawn attention to the rather frequent

occurrence of generalized urticaria after abdominal section. Mr. Tait states that this eruption occurs in about seven per cent of all cases of laparotomy.

Among the disorders of the glands associated with sexual troubles, hyperidrosis, bromidrosis, and acne are most frequent. The hyperidroses, both general and local, attending the critical period are well known, and every gynecologist must be aware of the strongly odorous perspiration which is so often an accompaniment of menstrual irregularities. A powder of salicylic acid and precipitated chalk (1:10) is usually an excellent palliative, not only diminishing the perspiration, but removing the offensive odor frequently present.

Acne in young women is notoriously closely related, if not absolutely dependent, upon menstruation in many cases. There is one form of this eruption which may be described as "menstrual acne." The papules and pustules are not connected with comedones apparently, but the folliculitis seems dependent upon some internal cause. Arsenic in doses of one-one-hundredth grain three times a day may be regarded as almost a specific in these cases.

At the menopause, acne rosacea not rarely begins, or if already present, becomes greatly aggravated. In eczema, a connection of the eruption with some derangement of the sexual apparatus can often be traced.

Dr. Rohé has seen a violent, acute, generalized dermatitis, accompanied by vesiculation, intense itching, fever, and subsequent exfoliation of the epidermis in several cases of laceration of the cervix. Trachelorrhaphy seemed to modify, but did not entirely prevent subsequent attacks.

Recurrent herpes of the genitals is probably sometimes due to intra-pelvic lesions involving the cutaneous nerve supply.

The remarkable disease first described by Hebra and termed by him *impetigo herpetiformis* is nearly in all cases associated with pregnancy or the puerperal condition. Dermatologists on both sides of the Atlantic are now earnestly studying this remarkable disease, and it is hoped that we may soon discover its causes and pathogeny.

Pemphigus, furunculosis, and erysipelas are sometimes associated with and apparently dependent upon uterine disorders. The septic scarlet rash of puerperal fever is probably not different from the so-called "surgical scarlatina."

One of the most annoying cutaneous affections depending upon derangements or lesions of the sexual apparatus in women is *chloasma* or "moth patches" of the face, so often coincident with pregnancy, menstrual disturbances, or uterine diseases. Fortunately, we can always remove the disfigurement, although the condition upon which it depends may not be amenable to treatment. An efficient means to remove the yellowish-brown spots is an ointment containing one drachm each of subnitrate of bis-



mouth and ammoniated mercury to an ounce of cold cream or vaseline. This is applied in a thin layer to the discolored surface every night. In two or three weeks, the skin becomes whiter and gradually the normal tint or an approach to it is restored. Should this application produce irritation of the skin, its use should be intermitted for one or two nights, or the strength somewhat diminished. Salicylic acid in alcohol solution (1-2:100) is also efficient.

Pruritus of the genitals, anus, or the general surface is very frequently due to some uterine derangement. Where palliative treatment is indicated, as it is in nearly all cases, an ointment of cocaine and salicylic acid, ten to twenty grains of each to the ounce, is often effective in relieving the itching.

Purpura occurs in a considerable number of cases of menstrual derangement. An attack of purpura sometimes takes the place of a menstrual period. These cases are not rarely diagnosed as vicarious menstruation.

#### DISCUSSION ON EXTRA-UTERINE PREGNANCY.

##### *Its Pathology.*

By FRANKLIN TOWNSEND, M.D., Albany, N. Y.—Much of interest has been already published upon the subject of extra-uterine pregnancy, both of a theoretical as well as of a practical nature, but reference to results from broad studies, in comparative anatomy, is but scanty. In tracing out pathological conditions, we should of necessity refer to histology and physiology, for without these scientific aids to our study, we lose sight of the finer shades of beginning morbid processes from absolutely normal ones. We should begin our study of the pathology of ectopic gestation by comprehending the physiological functions of the organs most intimately involved. The pathological processes following may then, I think, be more distinctly and definitely traced. Most authorities are agreed that the functions of the Fallopian tubes are, first, to transmit the ovum from the ovary to the uterus, and second, to permit the passage of the spermatozoa from the uterus in the direction of the ovary. There are a few, and the best of authorities, who differ from this view.

Physiology of impregnation of the ovum.—The seat of contact between ovum and spermatozoon has not as yet been determined with absolute certainty. Many of the best authorities differ in their conclusions upon this subject. Coste's observations seem to prove that fecundation is almost always effected, either upon the ovary or in the part of the tube nearest the fimbriated extremity, inasmuch as he maintains that the ovule spoils very quickly when it enters the tube without previous fecundation. Regarding the functions of the tube and ovaries, Mr. Tait has proven, conclusively to my mind, that ovulation can and does take place before, during, and even after menstruation ceases; also, that the changes in the ovary at puberty are simply

vascular, and that those in the tubes at this period are vascular, muscular and epithelial, and that the change of greatest importance is in the functional movement of those accessory organs. Ovulation, then, and menstruation are necessarily coincident. If, then, ovulation continues intermenstrually when the tubes are quiescent, what becomes of the ovum when the ovisac ruptures? Mr. Tait says, "I believe that the ovum falls into and perishes in the peritoneal cavity in by far the greater number of cases, and that the passage of it into the uterus occurs only in a small minority of the ova produced."

Accepting, then, the views of the majority of the authorities, that fecundation usually takes place either in the tubes or on the surface of the ovary, or even in the Graafian follicle, or possibly, as has been intimated by Parry, in the peritoneal cavity, and granting the admirable stand taken by Tait, it seems to me that, first, fecundation of the ovum takes place more frequently than is supposed. Second, that this being the fact, many sterile women, that is objectively sterile, who never complain of pain or ache, who ovulate and menstruate with greatest nicety and regularity, and whose general health is perfect, may frequently have fecundated ova, which, like non-fecundated ova, may drop into the peritoneal cavity and perish, because the soil there is unpropitious for their development. Third, that occasionally but rarely, I will admit, this same peritoneal soil, if I may be permitted to use such a term, does present a favorable site for the development of the fecundated ovum, and what is called "primary abdominal pregnancy" results. Fourth, this propitious site may be due to old peritoneal inflammatory troubles, which may be so slight indeed as to have never given rise to suspicion of their existence. Such nesting spots in the peritoneum for the development of the young fecundated ovum, though occurring not so frequently as those inflammatory changes in the tubes, causing desquamation of the ciliated epithelium, and thereby tubal pregnancy, as Mr. Tait so ably advocates, are, nevertheless, a factor of causation of the so-called "primary abdominal pregnancy."

From the physiological proofs, as already cited, I am convinced that extra-uterine fetation can and does occur either in the Fallopian tubes, by far the most frequent form, in the ovary or upon it, and even in the peritoneal cavity, and I must truthfully say that, in the study of any given case of misplaced conception, one of the most perplexing questions to decide is as to which class it properly belongs: whether tubal, ovarian, or abdominal. By far the most frequent form is tubal ectopic gestation, ascribed usually to a number of causes, as catarrh of the mucous membrane, flexions of the tubes, dilatations with hernial pouches, or constriction from inflammatory changes. Naturally, the pathological changes taking place will vary according to the duration and behavior of the pregnancy. As the growth of the ovum continues, the mu-

cous membrane of the tube thickens, the tubes themselves gradually distend, the villi enter into the mucous membrane, and, according to Bandl, the two poles of the decidua-like covering are closed, though sometimes the uterine end remains open and in continuity with the mucous membrane of the tube and the decidua of the uterine cavity. The vascularity of the vessels of the tubes and those of the broad ligament in which they lie is greatly increased, the muscular fibres of the tube, enlarging at first, subsequently become markedly thin by stretching from the continued and increasing pressure due to the growth of the ovum which finally ruptures the tube, usually between the second and third months. As a result of such tubal ruptures, the placenta is frequently lacerated, and the hemorrhage excessive, which pours into the peritoneal cavity, death being frequently due to shock, hemorrhage, or if not from either of these, purulent peritonitis is apt to develop. Associated with the rupture in the wall of the tube may be that of the ovum, with the escape of the fetus into the peritoneal cavity, or it may be that the ovum remains whole and in such condition falls into the abdominal cavity. Fatal as this form of ectopic gestation usually is, recovery may occur in case of premature death of the fetus before the tube gives way, and even after rupture has taken place recovery is possible, owing to the formation of inflammatory false membranes around the embryo of the entire ovum.

**Ovarian Pregnancy.**—So long ago as the latter part of the seventeenth century, St. Maurice demonstrated a case of ovarian pregnancy. A number of cases of this very rare condition are now on record. Rupture of the sac takes place early, though when the sac walls are reinforced by inflammatory adhesions to the peritoneal coverings of adjacent viscera, gestation at full term may be reached.

**Abdominal pregnancy.**—As has been shown, fecundated ova frequently drop into the abdominal cavity and perish. Occasionally it happens that their growth may continue for an indefinite period. The pathological changes occurring in this form of primary abdominal pregnancy must be distinguished from those that take place in what is termed "secondary." In the one instance we have so minute, soft, fragile, and delicate a corpuscle deposited in the peritoneal cavity that one could not well imagine any grave inflammatory results accruing from its immediate presence. This being the case, then the contiguous abdominal organs will not be injured by its ulterior development. On the other hand, in the secondary form of intra-peritoneal pregnancy, we have a voluminous product of conception suddenly thrust upon the peritoneum, accompanied by large quantities of blood. Here the ovum acts the part of a foreign body, soon determining an acute inflammatory process about it which possibly may form a cyst-wall made up almost wholly of plastic lymph, which completely isolates it

from the rest of the peritoneal cavity. If the fetal cyst ruptures, and the contents escape from the amniotic cavity into the midst of the intestinal mass, a renewal of the inflammation occurs and the cyst just described forms around it. As a rule, the fetus perishes at or soon after the time of rupture. With the death of the child, it may be converted into a lithopedion or, through the blood supply of the connective tissue, it may be preserved for years in its soft integrity.

In all forms of ectopic gestation, the connection between the ovum and the abnormal surface upon which it is engrafted is established by a vital adhesion between the chorionic villi and the tissues with which they come in contact.

The uterus in ectopic gestation.—From researches made by Clark, Oldham, Virchow and others, it would seem fair to conclude that the uterus is enlarged even in the early stages of ectopic gestation. A decidua forms in its cavity which is usually expelled during the early stages of gestation en masse, with pain and symptoms of abortion, or it may be discharged in shreds and pieces without symptom.

### *Its Diagnosis.*

By DR. JOSEPH PRICE, of Philadelphia.—For the sake of brevity, all allusions to the literature of the subject have been omitted and the facts generalized. The literature of extra-uterine pregnancy is scattered through a vast number of periodicals and consists for the most part of descriptions of cases occurring in the practice of the writers. The most valuable works are those of Mr. Lawson Tait and Dr. John S. Parry. Mr. Tait is undoubtedly correct in his proposition that all extra-uterine pregnancies are primarily tubal and that all the so-called varieties depend upon the location of the ovum in the tube, and the location of the point of rupture of the tube. The subject may be divided into three classes: first, extra-uterine pregnancy before the rupture of the tube; second, at the time of rupture of the tube, and third, after the rupture of the tube. Rupture of the tube is not synonymous with rupture of the fetal sac, though they generally occur at the same time. The diagnosis of extra-uterine pregnancy before rupture of the tube is rarely made, and when it is made is of necessity not positive, because the same set of symptoms may arise from a number of pathological conditions. The symptoms they present are as follows: First, partial or complete cessation of menstruation for one or more periods, generally accompanied by other rational symptoms of pregnancy; second, pain which is peculiar, being generally severe, paroxysmal, and long continued; a sickening pelvic pain which is neither cramp-like nor colicky. These pains, probably caused by the distention of the tube, are likely to subside for a time only to return. Third, the appearance of uterine hemorrhage which is again peculiar in that it is usually irregular both as to time and quantity: generally lighter in color than the normal discharge and contain-

ing shreds of tissue, which are portions of the decidua vera. The general condition of the vagina and cervix may or may not correspond to normal pregnancy. The uterus is generally enlarged and pushed out of place by a tender or exceedingly painful cystic mass, occupying the position of one or the other of the tubes and freely movable. A differential diagnosis is extremely uncertain. Care must be taken not to hastily exclude pregnancy because of the apparent return of the catamenia, nor to conclude that miscarriage has taken place on account of the presence of tissue in the discharge. When the fetus and placenta die before the rupture of the tube, the difficulty of diagnosis is practically insurmountable. These symptoms continue as the pregnancy advances. The tumor, as it increases in size, causes additional symptoms by pressure on the bladder and rectum. Rupture takes place almost always between the eighth and fourteenth week of pregnancy, in a majority of cases before the twelfth week. Now the symptoms vary somewhat, according to the point of rupture in the tube, whether into the peritoneal cavity or below it. If into the peritoneal cavity, as it is prone to do in a large majority of cases, the symptoms suddenly become most alarming. The patient is seized with agonizing pelvic pain, shows all the symptoms of internal hemorrhage and shock, goes into syncope, collapse, and death. Dr. Formad, of Philadelphia, states that within a very short period he had found in his post-mortem work eighteen deaths due to ruptured tubal pregnancy. These deaths all occurred before the twelfth week of pregnancy. Where death does not immediately supervene, the recovery from shock is gradual; uterine hemorrhage generally occurs, symptoms of peritonitis make their appearance, and the patient slowly recovers only to undergo another attack of the same kind. Physical examination now may or may not present characteristic lesions. If the patient survives thus far, the symptoms of purulent peritonitis or septicemia set in, and finally death relieves the suffering woman. When rupture occurs below the peritoneum, the symptoms are rarely so severe and may indeed be scarcely noticed by the patient. The hemorrhage is rarely or never fatal at the time of rupture.

Here, again, recurrent attacks mark the progress of the case, and the ultimate outcome depends on whether the fetal sac is ruptured or not. Examination of this point will reveal a sensation of boggiess and distention in the pelvis. The symptoms of peritonitis are wanting generally. If the fetal sac has ruptured, the fetus dies, and if the condition is not recognized and relieved by operative measures, the patient goes into a state of chronic invalidism, though sometimes they recover fair health and comfort. In a small minority of cases, the fetal sac is not ruptured, and now the progress of gestation is similar to the normal until full term, providing a secondary rupture into the peritoneal cavity does not occur. After quickening, the doubts of pregnancy are settled and the question is the location of the fetus, whether within or without



the uterus. The severe, paroxysmal pelvic pains may be very infrequent or cease altogether. The mammary changes are as in normal pregnancy. As the fetal sac enlarges, it produces unusually distressing pressure symptoms on rectum, bladder, and blood-vessels. Physical examination is the only mode of determining the diagnosis. The fetal sac is generally less movable than the gravid uterus. Vaginal examination shows the uterus enlarged, but not in proportion to the duration of pregnancy, generally displaced to one side, in front or beneath the tumor. If the patient carries the extra-uterine gestation to term, spurious labor will take place. It is accompanied by metrorrhagia. After this spurious labor, the fetus dies and is disposed of in a variety of ways by nature.

#### *Its Treatment.*

DR. E. MONTGOMERY, of Philadelphia.—He said that, when asked to take part in this discussion, he chose the subject of the surgical treatment. While his subsequent study had not induced him to depreciate the value of surgery, it had led him to appreciate more highly than before the possibilities of treatment by electricity.

Treatment must depend upon the form with which we are confronted.

Electricity affords an agent which can be relied upon for the destruction of fetal life. I am aware that its efficacy is questioned, but we cannot accept the dicta of men who are ignorant of the manner in which it is used, or of those who condemn it without a trial. An agent which is capable of destroying the life of mice and insects by passing a current through a vessel of water in which they are placed, should be effective in destroying life when brought in close contact with the fetal envelope through vagina or rectum, as may be most convenient. Its method of action is not electrolytic, the proper method of use is not by puncture. Those doubting its efficacy question the diagnosis; but it is improbable that all of the cases quoted are cases of mistaken diagnosis. An agent that will dispel conditions affording the subjective and objective symptoms of ectopic gestation is worthy of further consideration.

In conclusion, he recommended the following plans of procedure:

1. In every form of ectopic gestation, prior to the fourth month, the destruction of life by electricity (faradic current).
2. Between the fourth and sixth months, destruction of life by electricity, and some weeks later laparotomy.
3. In rupture, immediate laparotomy, with removal of sac, contents, and the effused blood.
4. In cases that have passed the sixth month, wait until viability is well established, and perform laparotomy, observing every precaution that separation of the placenta does not occur, close the sac above, and drain through the vagina.
5. In case of death of fetus, it should be removed by laparotomy a few weeks later.



6. Where the fetus has become macerated and abscess has formed, its sinus should be enlarged and the fetal residue removed.

DR. A. VANDER VEER (Albany, N. Y.).—Continuing the discussion of the surgical treatment, he said: Much of the literature upon ectopic gestation is very vague. The monograph of Sir Spencer Wells on "Abdominal Tumors" is especially valuable for its clear history of cases, and the concise, yet minute, description of the surgical devices employed.

The abdominal surgeon needs to be perfectly familiar with the points of diagnosis, especially in the early stages.

There is a class of cases in which a diagnosis can be made before rupture, and by the tenth week. Another class gives rise to no symptoms other than those of normal pregnancy before the rupture takes place. Witness the thirty-five cases of Tait and the eighteen cases found post mortem by Formad, of Philadelphia. The first class are such patients as have been under the eye of the gynecologist, perhaps for years. He will be conversant with the pelvic conditions and relations. In such cases, there will be the onset of menstrual disorders altogether new, severe recurrent attacks of pelvic pain, mammary and gastric disturbance, perhaps the expulsion of shreds of membrane. These symptoms, taken with the "wine cast" vaginal hue, are valuable in many cases as early as the second month. Then with the uterus displaced laterally or forward, a soft cervix, patulous os, uterus enlarged, and a new growth behind or at one side, globular, and semi-fluctuant, gives a strong presumption of ectopic gestation. The use of electricity as a feticidal agent is largely an American method of treatment. The strongest objection to its use seems to be that untoward results follow the operation. The operation for the removal of the product of an ectopic gestation before rupture has taken place is to the surgeon an ideal method. There remains no foreign body to be disposed of and no serious after-effects are to be feared. Veit records seven successful cases with no failures. When the symptoms show that rupture has taken place, no doubt an immediate abdominal section is the only proper thing to do.

When ectopic gestation goes safely beyond the fourth month, danger of rupture is small.

The general tendency of operators is, then, to await spurious labor. Then should we try to remove a living child, or wait until the placental circulation has ceased? The tendency of operators is growing more and more toward primary laparotomy. In view of our improved technique in doing the operation, I believe we are justified in urging primary laparotomy. In primary laparotomy, the placenta ought to be removed either by ligation or exsection.

DR. CHARLES A. L. REED, of Cincinnati, presented a paper on

#### FIBROID TUMORS OF THE ABDOMINAL WALL.

He commenced by referring to the dearth of American and English literature on tumors of this character. After accumulating

the data, however, it became apparent that to dispose of the entire topic it would be necessary to discuss (a) fibromata; (b) lipomata; (c) myxo-lipomata; (d) cysto-carcinomata; (e) neuromata; and (f) hyatid cysts.

A discussion of these sub-topics, however cursory, would result in the production of an essay too voluminous for this occasion. As a consequence, and in consideration of the fact that his own observations had been limited to five cases of tumor of the abdominal wall, all of them fibroids, he considered it expedient to restrict his paper to a discussion of that variety.

He considered the subject under the following heads: History, etiology, pathological anatomy, symptoms, development, influence of pregnancy upon the nutrition of these growths, duration, prognosis, diagnosis, and treatment. He presented the subject of treatment under three heads: Exploratory incision, total extirpation, and electrolysis, reporting his five cases in detail.

The conclusions to which he had been forced by a study of fibroids of the abdominal wall, and by his experience in their treatment, were as follows: *First.* Fibroids of the abdominal wall, however small, benign, or indolent, are liable to take on active growth. *Second.* When small, their integumentary relations are unimportant, and their extirpation can be accomplished without serious risk to the patient, and should be advised. *Third.* When permitted to grow large, their integumentary relations become very important, and their extirpation can be accomplished but with hazard to the patient. *Fourth.* When in case of a large tumor, extirpation should be undertaken only where exploratory incision demonstrated its feasibility. *Fifth.* There should be no hesitancy in abandoning an operation when exploratory incision has shown it to be dangerous, because the primary incision may be of benefit to the tumor. *Sixth.* In cases of manifestly deep-seated tumors, with extensive peritoneal attachment, electro-puncture should be tried before extirpation is undertaken.

DR. A. LAPHORN SMITH, of Montreal, by invitation, read a paper on "Some Minute but Important Details in the Management of the Continuous Current in Gynecology."

The following officers were elected for the ensuing year:

*President.*—Dr. William H. Taylor, Cincinnati.

*Vice-Presidents.*—E. E. Montgomery, Philadelphia; J. Henry Carstens, Detroit.

*Secretary.*—William Warren Potter, Buffalo.

*Treasurer.*—Xavier Oswald Werder, Pittsburgh.

*Executive Council.*—Thomas Opie, Baltimore; Wm. H. Wathen, Louisville; Clinton Cushing, San Francisco; Melancton Storrs, Hartford; Byron Stanton, Cincinnati.

Next place of meeting, Cincinnati. Date to be fixed by the Executive Council.

# TRANSACTIONS OF THE SECOND MEETING OF THE GERMAN GYNE- COLOGICAL ASSOCIATION,

HELD AT HALLE, MAY 24TH, 25TH, AND 26TH, 1888.

(From the *Centralblatt für Gynäkologie*.)

(Concluded from p. 1007.)

## PLACENTA PREVIA.

AHNFELD (Marburg) showed a rare specimen, being a section, hardened in Müller's fluid, representing the natural relations of a uterus with placenta previa. The specimen was from a rachitic woman who had died soon after a profuse hemorrhage for which no assistance had been rendered. The placenta was attached low down, somewhat laterally to the internal os, above which was a layer of decidua set with degenerated villi; closely adjoining could be seen a laceration, one centimetre in length, which communicated with a larger vascular sinus whence the profuse hemorrhage had ensued. With reference to the etiology of placenta previa, A. believed that great importance attached to the condition found, which he had met with, moreover, seven times in nine similar cases (since he had followed the expectant plan in the third stage of labor), viz., the margin of the placenta was firmly adherent to the underlying tissue in the region of the internal os.

## PLACENTA PREVIA WITH TWIN PREGNANCY.

HOFMEIER (Giessen) exhibited a hardened uterus, opened in its anterior wall, from the fifth month of pregnancy, which presented many features of interest: twins *not separated* by membranes and surrounded with blood (H. held that the membranes between the fetuses were torn by the effused blood and had retracted); and a fused placenta previa. After removal of the blood, the speaker found the cavity clothed with a largely developed decidual layer. In view of the fact that a strongly developed plethoric decidua reflexa could be demonstrated in several preceding cases of placenta previa, the speaker was inclined to assume that this condition was liable to occur when the placenta became inserted at the decidua reflexa.

DOHRN confirmed Ahfeld's view, according to which the margin of the placenta is more firmly adherent to the underlying tissue. When seated low down the form of the placenta is uncommonly

flat and bare, having spots devoid of villi. The ovum, when it reaches the uterus, is completely surrounded with villi. Finally, D. added that placenta previa was a frequent cause of abortion and premature labor.

KALTENBACH corroborated Dohrn's remark that abortions were of frequent occurrence when the placenta was seated low in the uterus.

AHLFELD could not share Hofmeier's view as to the origin of the placenta previa. In the early months, the placenta is usually seated so low as to be mistaken for placenta previa lateralis by a person of limited experience. More attention should be devoted to abortions.

WINCKEL had recently had an opportunity of seeing a two weeks' ovum with decidua vera and reflexa, and had convinced himself that the ovum was provided with villi when it entered the uterus. Placenta previa would occur when the allantois projected over the place where the ovum is seated.

SCHULTZE (Jena) made a brief communication on

#### PESSARIES.

In the successful treatment by pessaries, the qualities of the latter bear an important part. The demands made of a good vaginal pessary are the following: smooth, harmless material, lightness, and a shape adapted to the individual requirements. The most generally useful are, Schultze's figure-of-eight pessary, and those of Hodge and Thomas. For some weeks past, S. has used pessaries of celluloid (of English manufacture); they are smooth, flexible, very resistant to catarrhal secretions, and cause no irritation; in boiling water they become pliable, and for this reason S. gives the desired form also to *celluloid rings* of varying diameter only previous to their application. To the general practitioner he recommended celluloid wire rings which are pliable without the intervention of boiling water.

RUGE (Berlin) read a paper on

#### ADENOMA OF THE UTERUS; ITS BENIGN AND MALIGNANT FORMS.

In glandular hypertrophic endometritis, the mucosa is thickened, and excavation is effected by cellular proliferation; in glandular hyperplastic endometritis, the mucosa is thickened in consequence of glandular new-formation; in the third form of proliferation, the glands penetrate into the muscular tissue. The excavated glands may protrude, forming papillary excrescences. Gynecologists give the name of diffuse adenoma to hyperplastic glandular endometritis, and of circumscribed adenoma to the polypi; the name is unfortunate, because it implies a neoplasm, and an operation is performed in consequence, while in the hypertrophic form of endometritis operation is performed only for the symptoms, not for the disease. *Malignant adenoma* corresponds clinically and anatomically with carcinoma.

R. proposes to name the so-called benign forms of adenoma, as

well as the polypi which are no neoplasms, glandular hyperplastic endometritis, and to term the malignant form simply carcinoma.

WINTER maintained that the microscope should be accorded a greater importance in gynecological diagnoses.

AHLFELD (Marburg) read a paper on

#### INTRA-UTERINE MOVEMENTS OF THE FETUS NOT HITHERTO DESCRIBED.

He had not succeeded in his attempts at graphic delineation, by means of Marey's apparatus applied to the abdominal walls, of the beats of the heart and the movements of deglutition of the fetus; but he found during these experiments, besides irregular curves (motions of the child felt also by the mother), from forty-two to eighty-four regular curves per minute. His attention having been directed to this phenomenon, he could see these regular movements of the child very plainly with the unaided eye. Judged by their frequency, they might be motions of sucking or respiration; in order to gain more positive information, he put Marey's apparatus on the abdomen near the navel of new-born infants and found the curves obtained to be very regular. Accordingly, A. interprets this phenomenon as respiratory movements (motions of the diaphragm), and inclines to the opinion that the child, even *in utero*, makes regular respiratory movements, not perceptible to the mother, which are in addition to the many other movements performed during intra-uterine life. By these movements a small portion of the liquor amnii might get into the trachea, but no farther.

WIENER thought it improbable that these movements were respiratory, for it was impossible to maintain that liquor amnii would not thus reach the lungs.

ZIEGENSPECK (Munich) stated that Preyer, in 1881, had demonstrated similar movements in frogs and insects.

AHLFELD, in closing the discussion, admitted the possibility of the curves being caused by contractions of the amnion.

LEOPOLD (Dresden) read a paper on

#### THE TREATMENT OF RUPTURE OF THE UTERUS.

Among the 6,100 labors which had come under observation at the Dresden Gynecological Clinic during the last five years, five were complicated with rupture of the uterus. In one of these cases the rupture was incomplete, and therefore will be left out of the present consideration, the other four were complete. In the *first case*, the position of the fetus was transverse and labor had been prolonged; the fetal head had escaped to the right. The woman died with symptoms of collapse shortly after the manipulations to be described below. The autopsy showed that the laceration had occurred in the anterior wall and continued into the broad ligament; bladder and rectum were completely detached; uterus hanging free. After L. had terminated this labor by eviscera-

tion, he irrigated and tamponed the cavity with iodoform gauze. On this occasion he gained the impression that it would have been better to liberate the points of rupture and use drainage. *Case 2.*—Breech position; repeated attempts at delivery had been made; complete rupture of the uterus; the laceration was to the right anteriorly and extended into the broad ligament; bladder completely detached; the placenta had to be removed through the laceration. L. now placed the uterus in ante flexion, drew down the upper lacerated point with a tenaculum, gave an irrigation, tamponed the lacerated wound and the vagina with iodoform gauze, and applied a pressure bandage. After twelve days the strip of iodoform gauze was changed. Recovery. *Case 3.*—Hydrocephalus; forceps. The laceration was likewise anterior; the bladder was detached. Treatment similar to the preceding case. The woman died a few days later of hemorrhage from a round gastric ulcer. The autopsy showed that the adhesion between the peritoneal flaps was firm. *Case 4.*—In a woman intended for Cesarean section complete laceration ensued spontaneously; the pains ceased immediately. The injury was the most severe; the right wall was completely detached; the child, now to be considered as dead, had escaped into the abdominal cavity. Laparotomy; the placenta had to be removed from the abdominal cavity; hemorrhage from the uterine artery continued uninterrupted; after the uterus had been depressed so as to bring the wound surfaces nearer and the hemorrhage had been stilled, L. crowded a roll of iodoform gauze through the abdominal cavity into the vagina. The abdomen was closed up to the point where the gauze was spread. Recovery without fever; the roll of iodoform was removed in the course of the third week.

From the cases related, L. draws the following conclusions: 1. When the child has escaped into the abdominal cavity, or when the condition of the patient is critical, hemorrhage, extensive injuries, etc., are present, laparotomy should be done. 2. Lacerations of the anterior wall of the uterus do not appear to be so very rare.

BATTLEHNER (Karlsruhe) raised the question what was to be done if pregnancy recurs after recovery from the rupture. He was well aware of the fact that Hegar had counselled Cesarean section; still, in a case related, he decided on the induction of premature labor and was well satisfied with the result.

SCHULTZE (Jena) exhibited several specimens:

#### A FUSED PLACENTA WITH TWO CORDS;

one of these led to a full-term child which died six hours after birth; the other, to an *ischiopagus* (common navel, one anus, two heads and trunks, and four feet). The extraction of this monster (footling) was effected without difficulty. One of the children lived for forty-one, the other for forty-eight hours.



From a full-term child, a placenta marginata, to which was attached by chorionic villi a pretty large ovule. Its size corresponds to the sixth week, but the age of this embryo may be placed at four months, from the length of the cord and the size of the placenta. This, then, was a rare instance of

#### UNEQUAL DEVELOPMENT OF TWINS,

and good preservation of one embryo, but not of superfecundation.

The specimen of a

#### FULL-TERM TUBO-UTERINE PREGNANCY;

Cesarean section was performed on the moribund, eclamptic woman.

BREISKY had also observed an ovule from the sixth week on a placenta dating from the fifth month of pregnancy; he also remembered similar cases from the older literature.

FRANK had seen a case of malformation, similar to the one described by Schultze, a few days before.

SLAVJANSKY (St. Petersburg) had had two cases of full-term tubo-uterine pregnancy and in both had performed Cesarean section after the death of the mother.

KALTENBACH exhibited an ischiopagus from about the sixth month of pregnancy, belonging to the collection of the clinic.

SCHUCHARDT (Halle a. S.), in connection with the patient presented, read a paper on

#### SARCOMA OF THE VAGINA IN CHILDHOOD.

Seven similar cases had been hitherto reported (Ahlfeld, Saenger, Babes, Demmel, Soltmann, Hauser, Steinthal): the age of the girls varied between the second and fifth year; the tumor, usually grape-like in form, was congenital in only one case. The course was very malignant in all cases. S. related two recent cases which had come under observation or operation in Volkmann's clinic; one of these—a girl of seven years—died of a recurrence two months after the operation. The other case occurred in the patient presented, then five years old. She began to suffer in the spring of 1885; bean-shaped tumors projected from the vagina on coughing; in September of the same year, the tumor was excised together with a portion of the vaginal wall the size of a dime. Six and a half months later, the tumor reappeared, being about the size of a walnut; it was extirpated together with one-half of the posterior vaginal wall; the remainder of the vaginal wall was drawn down and fastened to the perineum at the point where the skin changes into mucosa. The wound healed by first intention; since then the child had remained well. Both the excised tumors were papillary in character and proved to be round-celled sarcomata under the microscope. S. thought the papillary proliferation shown by the mucosa around the tumor indicated a disposition to the formation of sarcomata.

OLSHAUSEN (Berlin) read a paper on

THE MECHANISM OF LABOR IN HEAD PRESENTATIONS.

He maintained that the rotation of the head is mainly caused by the *rotation of the back*: in the expulsive stage, the back, otherwise lateral, is situated anteriorly, nearly in the median line. The fact that a pendulous abdomen favors frontal positions, and that the same accident is often noticed in cases of kyphotic pelvis, can be explained only by his theory. In face positions the forward rotation is quite inexplicable by the ordinary mechanism. A short time since, a treatise by Sutugin appeared in Volkmann's "Sammlung," in which that author referred to the trunk in a similar manner. The question, "why does the trunk rotate forward?" O. thinks he can answer as follows: 1. Because of the flattening of the uterus after the escape of the liquor amnii. 2. Because of diminished latero-version and latero-torsion during the contraction of the uterus.

LAHS thought the mobility between trunk and head was too great to be influenced the one by the other; in investigating the mechanism of labor, the expulsive force should be first considered.

OLSHAUSEN pointed out that he had spoken only of the rotation in which the occiput is brought forward by axial effects, but not of the direction of the pressure.

POTT (Halle a. S.) read a contribution to the subject of

THE ETIOLOGY OF VULVO-VAGINITIS IN CHILDHOOD.

During the last twelve years, P. had treated 18,047 children, of these 8,481 were girls. Of vulvo-vaginitis there were 86 cases—56 from birth to the fifth year; 23 from the fifth to the tenth year; 7 from the tenth to the fifteenth year. The cases were most frequent between the second and fourth year. The disease was traced to both local and constitutional causes. According to P., the disease is a specific, infectious one (gonorrheal infection). Cseri and Israel found gonococci in the secretion. The etiology of this disease is by no means clear: stuprum was very rarely the cause and even then only when the stuprator was affected with gonorrhea. The infection is seldom caused during labor.

P. believed, in view of the fact that children of the poorer classes between the second and fourth year are most frequently suffering from this disease, and that these, as is well known, often sleep in the same bed with their parents who are possibly affected with gonorrhea, that the disease arises from direct contact of the vaginal mucosa with the infected bed-linen. It was of rarer occurrence in boys because in them the mucous surface is not equally exposed, although they suffer often enough from balano-posthitis. P. had formerly believed that the vulvo-vaginitis was a symptom of syphilis, but he had seen recovery from the latter, while the former persisted.

PROCHOWNIK (Hamburg) took the same view: in 21 similar cases he had found the gonococcus in 17; the parents of these children were not rarely affected with urethritis.

SAENGER thought that family epidemics were not rare; he knew an instance where the parents, the youngest child, and one of three years had the clap.

KEIL (Halle a S.) read a paper on

THE OPENING OF CYSTIC ABDOMINAL TUMORS BY TWO OPERATIONS.

This procedure was first employed by Volkmann; Hegar recommended it in the treatment of pyo-salpinx. K. discussed the dangers associated with the extirpation of such tubal sacs: the removal is not rarely rendered difficult by adhesions; rupture of the sac and escape of the purulent fluid into the abdomen is not a rare accident under these circumstances and may prove very serious; hemorrhages in the depth of the pelvis are difficult to master. Of 31 pus tubes which Gusserow attempted to remove, 18 ruptured. The opening of such tumors by two separate operations excludes the dangers just enumerated. Small tumors are not suited to this procedure. Regarding the permanent results attained, but little experience has thus far been accumulated; at any rate, the pressure symptoms are moderated by the collapse of the sac. Kaltenbach had performed the operation twice with success. A IIIpara, aged 46, had suffered for a long time from pains in the left side of the abdomen; the left vaginal vault was depressed by a cystic tumor (hydro-salpinx); an incision parallel to the left Poupert's ligament exposed the tumor whose wall was fastened to the abdominal wound; the latter was stuffed with iodoform gauze and a bandage applied. A week later, on removing the dressing, the tumor was found adherent to the abdominal walls; it was opened, the fluid removed, a drainage tube put in, and bandage applied. The wound closed after three or four weeks. In a second case the procedure was employed for a cyst of the spleen.

WERTH objected to leaving the tubal walls behind in cases of pyo-salpinx, because they may be tuberculous and the real disease thus fail of removal.

DUEHRSEN remarked that, in the majority of cases of pyo-salpinx operated on by Gusserow, the tumors were small and unsuitable to the repeated operation. He recommended the radical removal of the sac, if it were only on account of the perimetritic attacks.

WIEDOW thought the operation justified in difficult cases; tuberculosis of the tubes can be clearly established by bimanual examination.

SKUTSCH thought the nodules on the tubes were not a certain sign of tuberculosis.

KALTENBACH said he appreciated the value of extirpation, and only in exceptional cases, where the diagnosis cannot be made with certainty, he resorted to the milder procedure, the repeated operation.

KEIL believed that, in cases of tuberculosis, the sac could be thoroughly irrigated or treated with iodine injections.

FROMMEL (Erlangen) read a paper on

THE DEVELOPMENT OF THE PLACENTA.

The development of the placenta has not yet been traced to its source. The speaker had followed the development of the placenta in bats. When the fecundated ovum enters the uterine cavity, adhesion takes place between the blastoderm and the uterine epithelium, the latter perishing. The ovum forms a sort of crypt in the inner surface of the uterus; the substance developing above in the crypt is placenta. After the fusion of the ovum with the inner surface of the uterus, a layer of protoplasm forms, and within this are nuclei in the most varied stages of development; the uppermost cell-layer proliferates greatly, and into this "decidual layer" the chorionic villi penetrate. Close beneath the point of fusion a circle of fissure-like vessels develops—the arterial maternal supply of blood. (In the non-impregnated uterus these vessels usually exist as capillaries.) The glands of the uterine wall then perish throughout the space occupied by the placenta. A downward proliferation starts from the chorionic epithelium to where the endochorion—which develops from the external layer of the allantois—forms; the circle of vessels carries the blood thither: maternal and fetal blood come into intimate contact. Finally, toward the outside, there is formed a large blood sinus; this lacuna (Frommel) is not persistent, but from it develops a spongy substance, in which then, probably, the placenta becomes detached.

LEOPOLD.—With the very first development of the placenta, the extraordinarily thickened superficial capillary network can be recognized; the chorionic villi penetrate into the capillaries.

AHFELD stated that Lieberkühn had already demonstrated this vascular layer, and asked the author how long it took until the umbilication formed.

FROMMEL replied that the umbilication formed very early.

WIENER stated that Leopold's findings will soon be confirmed by the labors of a Breslau physician (Heinz).

DOEDERLEIN (Leipsic) read a paper on

AN INTERNAL RELAPSE OF ERYSIPELAS, AFTER MONTHS OF LATENCY,  
CONSEQUENT ON PREMATURE LABOR.

It is only quite recently that voices of importance have pleaded for the possibility of auto-infection, which should be understood either as infection by pathogenetic bacteria or as infection of the uterine cavity. The germs either have been present before the labor, or else have gained access during it; the latter possibility is rarer. The vagina always contains germs of the most variable nature (according to Winter, frequently staphylococci); in these germs we must seek the source of the auto-infection, which had better be termed contact-infection (from without). In every case, therefore, the most thorough disinfection of the vagina should be practised.

After this brief introduction, D. entered on the history of a very interesting case. In December of the preceding year, a woman of 37 came to the Leipsic polyclinic with the statement that she had been bleeding for two weeks. The history showed that the woman, in April of last year, while pregnant had had an attack of erysipelas of the skin, starting from a wound in the finger; shortly after, she aborted, and passed through an attack of pneumonia and pleurisy. Examination disclosed pregnancy in the sixth month; the loss of large quantities of blood indicated the induction of premature labor, which accordingly was effected under antiseptic precautions. Before labor, the patient was free from fever; immediately after delivery, fever set in, and did not abate until the death of the patient, which occurred on the fifteenth day after labor. The bacteriological examination of the lochia proved the presence of *Streptococcus erysipelatis* Fehleisen. Endometritis or perimetritis could not be demonstrated; but the joints were swollen and painful until two days before death. The autopsy confirmed the entire absence of septic phenomena, both in the uterus and in the ovaries and peritoneum, but demonstrated a recent leptomeningitis; in this pathological field and in the joints the streptococci of erysipelas were shown to be present. Unquestionably in this case we had to deal with an internal erysipelas which had remained latent since the preceding abortion, and had been fanned into flame by the premature labor.

BAUMGAERTNER (Baden-Baden) read a paper on

#### THE OPERATION FOR CERVICAL CARCINOMA.

B. has performed total vaginal extirpation four times; one of these patients has remained free from recurrence since, now three years. With the high excision of the cervix he has not had any favorable experience as regards relapses. Of late, in cases of bleeding and offensive cervical carcinoma, where a radical operation was out of the question, he had ligated both uterine arteries. The hemorrhage, as well as the ichorous discharge, ceased; in one case he even observed retrogression (fatty metamorphosis and absorption) of the carcinoma. B. recommends his method for trial in hopeless cases of cervical carcinoma.

LANTOS (Budapest) exhibited

#### KÉZMÁRSZKY'S DRAWERS FOR THE SUPPORT OF THE ABDOMEN.

For the support of the abdomen in cases of larger tumors, where the abdominal walls are insufficient, and after laparotomies it is quite customary to use binders of whose injurious effects many a man has certainly convinced himself. The clumsy application of the girdle, its upward displacement owing to the stretching of the thigh straps, which often cut into the flesh, and the frequent occurrence of hernias during its employment, determined Prof. Von Kézmárszky to construct a short pair of drawers which

obviate these drawbacks, while they form a suitable and simple support for the abdomen. They have been described in last year's issue of the *Centralblatt f. Gyn.* (1887, No. 7), and I have the honor to demonstrate them herewith on a patient operated upon at the clinic of Prof. Kaltenbach.

Here follows the description of the drawers, essentially as given in the first publication (l. c.), with the modification that the row of buttons is not applied in the median line, but at the right side. The drawers have been used since November, 1886, in the first obstetrico-gynecological clinic of the University of Budapest, in the affections above named, with the best results; the women do not tire of wearing them and they do not attempt—as is so frequently the case with the binders—to lay them aside. The drawers are made by the firm of Altrichter in Budapest.

BUMM (Wurzburg) read a paper entitled :

#### EXPERIENCE WITH THE AXIS-TRACTION FORCEPS.

B. has employed Tarnier's forceps in more than one hundred cases and found it very serviceable. Those forceps are best in which the traction rods can be detached; disinfection is easily effected because the axis traction is employed only after the forceps have been applied to the head. In their use, rude force can be dispensed with, the operator need not steady himself; hence a saving of strength. Another advantage is the free mobility of the forceps when applied to the head; in the ordinary forceps the mechanism, as compared to the pelvis in question, does not come into operation, while in Tarnier's forceps the head, together with the body of the instrument, obtains great freedom in mobility. B. finds the reason for the rare application of the axis-traction forceps in the fact that too much is demanded of them; they cannot make the passage through the narrow pelvis any easier, nor can they make the head smaller.

NIEBERDING had modified Tarnier's forceps by substituting for its French lock that of Brüninghausen; thereby the head is not compressed any more strongly, but the forceps cannot glide off, and thus the mechanism in question can be more fully developed.

SAENGER spoke in favor of the axis-traction forceps; a good pull depends on the grip of the operator.

DUEHRSEN was of the opinion that the difficulty of extraction with Naegele's forceps depends not only on the narrowness of the pelvis, but often enough on the rigidity of the os and vagina; in the latter case a few incisions suffice to make forceps extraction easy.

WINCKEL held the same views, and thought Breuss' forceps more suitable; that of Tarnier was too heavy.

BUMM had not yet been able to convince himself that Breuss' was an axis-traction forceps, least of all when applied to a head high in the pelvis.



ECKART (Halle a. S.) read a paper on

THE CONDITION OF THE MUCOSA OF THE UTERUS IN CARCINOMA OF  
THE CERVIX.

Under the above title there appeared in the *Archiv f. Gyn.*, XXII., Hft. 2, a paper by Dr. Karl Abel of Landau's private clinic; in this the author states that in seven cases of total extirpation of the uterus for carcinoma of the cervix he had found the uterine mucosa in a state of sarcomatous degeneration. E. examined the mucosa of ten uteri extirpated by Kaltenbach, but could demonstrate only simple hyperplasia; the glandular proliferation (endometritis glandularis) was indeed remarkable, as was the papillary proliferation into the cavities of the glands. E. is of opinion that in carcinoma of the cervix the mucosa of the body undergoes profound alterations which, however, have merely the importance of a chronic inflammatory condition of the glandular apparatus, but not that of a sarcoma. The hemorrhage in cervical carcinoma would, according to E., be derived only in part from the new formation, in part certainly it owes its origin to the altered mucosa of the body of the uterus. In conclusion, E. stated that among the ten cases of cervical carcinoma he had found three times small myomas in the body of the uterus.

WIEDOW (Freiburg i. Br.) read a paper on

RELAXATION OF THE PERITONEUM.

The affection may be divided into two classes:

1. In poor, weakly, hard-laboring women, there usually results relaxation of the entire pelvic peritoneum and the abdominal walls. They complain of tension in the region of the stomach, a sensation of dragging, symptoms of prolapsus, dyspepsia; menstruation is profuse, and the intervals short; leucorrhea; the uterus is often enlarged, thickened, and retroverted or retroflexed. In chlorotic nulliparæ who labor hard, similar symptoms are often found.

2. The alterations affect the pelvic peritoneum and the pelvic floor; as soon as the pelvic floor becomes insufficient, the peritoneum must bear the intra-peritoneal pressure which causes its relaxation secondarily. The intra-abdominal or vaginal pressure, in the normal state, is compensated by the closure of the vagina; this ceases when the perineum is lacerated; the closure of the vagina is placed higher and is finally overcome under the influence of the intra-abdominal pressure. The uterus descends in retroverted ante-position.

SCHWARZ inquired of the author whether he had measured the vaginal pressure with a manometer, and was answered in the affirmative.

WINTER (Berlin) exhibited drawings of two

#### MEDIAN FROZEN SECTIONS

of the entire trunk, and of the pelvis and uterus, respectively, made from the bodies of two parturients dead of eclampsia.

Plate I. The thinning of the lower uterine segment is considerable, the ring of contraction not visible. The lower portion of the uterus which is not covered by membranes shows decidual contraction. The posterior lip is rolled up, the anterior not. Besides, anteflexion and acute flexure of the cervix may be demonstrated. The placenta is seated low, the head has entered the pelvis and presses on the placenta; the vessels are rather anemic.

Plate II. Primipara, æt. 27, attacked by eclampsia eight weeks before term. Pains were present. On the preparation and the drawing may be seen a double rupture of the ovisac, besides premature detachment of the placenta, with a nearly central, typical, retro-placental hematoma.

FEHLING (Basle) read a paper on

#### CASTRATION IN OSTEOMALACIA.

In the neighborhood of Basle, cases of osteomalacia are relatively frequent. Examination of the urine, undertaken in conjunction with Bunge, showed a slight diminution (by a few milligrams) of the calcium and the phosphoric acid, but F. would not draw any conclusions from these findings.

In the literature, the author had found mention of twelve cases of osteomalacia in which Cesarean section had been performed, with only two recoveries (Winckel, Reuss), while of the forty-four operated upon according to Porro, seventeen died, three of concomitant disease (phthisis), and twenty-four recovered; recovery ensued, at the latest, in one-quarter to one-half year, according to the information received from the interrogatory blanks sent out; menstruation ceased entirely sooner or later. (After thirty-one Porro cases collected by Dufour, menstruation is said to have recurred more or less regularly; in Braun's case, the woman subsequently had regular menses.) F. had performed the Porro operation in four cases with very good result; the women are well, but he could learn nothing of their sexual capacity; coitus is rendered very difficult owing to the slight mobility of the legs, but working power is good. These results led F. to the idea of doing Cesarean section instead of castration. 1. In January, 1887, he castrated in Stuttgart a IVpara; the course of the operation was smooth; after six weeks the patient attempted to walk, and now earns her bread by washing; menses never recurred. 2. A VIIIpara, bed-ridden for three months, and barely able to move, was received into the Basle clinic. Castration; the varicosity of the adnexa was very conspicuous; nothing of note about the ovaries. Two days after operation, pains ceased; but the improvement was not quite satisfactory, because the use of the legs

is limited. 3. An osteomalacic IVpara; castration four weeks before; adnexa were varicose. Improvement.

In view of the facts cited, F. concludes that, in cases of osteomalacia where operation comes in question, Porro's operation appears to be justified.

WINCKEL, in a case of osteomalacia, found the alkalinity of the blood diminished, as has been stated by Jaksch. He took the same standpoint as Fehling, only other measures should also have been tried; W. had often witnessed improvement, in osteomalacic pregnant and parturient women, from good, appropriate nourishment.

BATTLEHNER (Karlsruhe) exhibited a specimen of

#### INVERSION OF THE UTERUS.

The inversion occurred after a labor; reinversion failed by any of the known methods; finally, vaginal extirpation of the uterus was decided upon; patient died a few days later.

#### INTESTINAL OCCLUSION AFTER LAPAROTOMIES.

NIEBERDING, since his publication of the first case, had witnessed two similar instances (after a myomotomy and an ovariectomy). If he had used wet sublimate gauze (Krukenberg), he might possibly be induced to ascribe it to that, but it was dry. Or should it be that the hard gauze containing sublimate and chloride of sodium had scraped off the endothelium of the serosa?

KALTENBACH does not use sublimate, for it might be that the gauze wounds and excites inflammation. Careful-antisepsis suffices. Besides, he had been struck by the fact that such complications were more frequent in the first fifty operations, that is to say, until the technique of the operation has been perfected.

SCHWARZ had observed in Olshausen's clinic two cases of intestinal occlusion after laparotomy: the intestinal loops, in each case, were at the point of the rubber ligatures.

After KALTENBACH had thanked the authors for the interesting papers read, and WINCKEL had expressed the thanks of the Society to the President for the excellent way in which he had conducted the proceedings, the Congress was declared closed.

The next session will be held in 1889, in Freiburg i. Br., under the presidency of Prof. Hegar, as the International Congress will meet in Berlin in 1890.

## ABSTRACTS.

**1. R. W. Raudnitz: The Indications of Variation in Infancy** (Reprint from the *Prager Med. Wochenschrift*, 1888, Nos. 16-18).—The importance of the morbid indications for the recognition of inherited variation has been almost completely neglected in Germany. The family physician in particular has opportunity to recognize bodily peculiarities which cannot be called disease, but at times closely approach its borders, and play an important part at least among the causes of disease. Such a peculiarity becomes variation when met with in several members of a family and transmitted by heredity. The French go too far in ascribing every eruption, even if more probably due to fungi taking root on the softened epidermis, to the herpetic diathesis, and giving internal medication instead of local remedies. In the growing human being, inherited variation expresses itself more freely than in the adult, but becomes more rarely a cause of disease, and usually appears only as a morbid symptom. The development of persons with a mental taint furnishes a good example.

The adult with inherited disease seeks our aid when the affection is fully developed, but in the child, we become acquainted with the variation before it has become or given rise to disease, and offers opportunities for preventive medicine. Much of this subject is still involved in obscurity, and requires observation, especially by the family physician.

Inherited excessive or deficient bodily weight is usually hardly considered as variation, but the latter, as inherited weakness, frequently comes under the physician's care. How a variation which can barely be called morbid may become the source of disease may be learned from such children. They suffer almost regularly from the disproportion between the size of their stomach and the amount of milk given them; this leads to vomiting, soon followed by hunger, irregular nutrition, and disease of the digestive tract. Inherited strong development hardly causes disease, but the children, being always hungry, are liable to be overfed with starchy material. Excessive or defective length of body usually goes hand in hand with the variations mentioned; the former at maturity being apt to cause morbid tallness, which is held to lead to consumption. If this be so, the growth might be arrested by appropriate nourishment.

Among the variations of nutrition may be mentioned lipomatosis, diabetes mellitus, and lithemia, the latter being the inherited tendency to gout or renal calculi. This is illustrated by an interesting case related by the author.

During dentition, certain symptoms appear which older physicians ascribed solely to the eruption of the teeth, but which, according to the author, indicate inherited variation, *e. g.*, strophulus (Willan), which does not belong to the herpetic variation (diathesis), but seems to the author rather to be due to chronic constipation of hereditary origin.

Regarding the inherited tendency to the formation of biliary calculi, R. has made no personal observations, but refers to the literature (Alison).

No family physician will doubt that there is a rheumatic variation, by which R. understands an hereditary tendency to diseases due to "catching cold." Whether this variation is connected with the tendency to pyrexial movement is still doubtful.

The best studied, of course only by alienists, is the nervous variation, the graver forms of which belong to psychiatry. But the slighter forms also show themselves early, and here the physician should influence the choice of vocation.

The investigation of variation and its indications opens up a wide but profitable field.

[The author uses the term "variation" (*Abartung*) as the first step of "variety" (*Abart*) or of degeneration (*Entartung*), according as it is useful, indifferent, or injurious.

F.

**2. Wiedow: On the Connection between Albuminuria and Disease of the Placenta** (*Schmidt's Jahrb. d. Mediz.*).—Fehling has recently drawn attention to the connection between nephritis and disease of the placenta, relative to death of the fetus, and further investigations since then have confirmed his (F.'s) views. W. refers to a series of old published cases which, without having been properly explained then, speak for the relation of both diseases; Simpson, of Edinburgh, regarded already early in the year 1860 albuminuria as the cause of disease of the placenta. Lately cases of this kind have also been described by Cohn, to which are added in W.'s treatise further observations from the "Freiburg Clinic." Mostly eclampsia intra or post partum, morbid kidney of pregnancy, were in question; once the necropsy revealed contracted kidneys; dead or extremely insufficiently nourished children and with it regularly anatomical changes of the placenta were found. Microscopically these appeared as numerous yellowish-white nodes, belonging either to the maternal portion of the placenta, or being found on the surface. Microscopically, according to W.'s researches, they represented the result of a coagulation and necrosis of the follicular epithelium. That there exists a connection between albuminuria and disease of the placenta is scarcely to be doubted; but difficult to answer is the question whether the change in the placenta is the consequence or cause of the albuminuria. For some cases the former view will hold good, but not for all. Sometimes normal placentæ are found in spite of nephritis, sometimes the death of the child has already occurred before irritation of the kidneys presents itself, or the changes in the placenta are of an earlier date than the albuminuria. Finally it is unexplainable that, in cases of twins, one placenta is found diseased and the other normal. The proper final explanation raises still great difficulties and must be reserved for further investigations.

ALBERT PICK. F. PRITCHARD.

**3. Leopold: The Cure of Retroflexion by Stitching the Fundus Uteri to the Abdominal Wall** (*Centralblatt f. Gynäkologie*, 1888, No. XI.).—L. reports three cases of excessive retroflexion in multiparæ, in which, all other means having failed to relieve the severe sacral pain and dysmenorrhea, he decided to open the abdominal cavity and stitch

the fundus to the anterior abdominal wall. In brief the operation is as follows: Incision from umbilicus to symphysis. Uterus raised from pelvis (adhesions dissected with finger tips) and held by assistant. First suture through left margin of incision and directly through uterus, entering and emerging just below the attachment of the round ligaments; thence out through right margin of abdominal incision. Second suture, one centimetre above first, enters uterus and emerges from it just anterior to entrance of Fallopian tubes, passing through muscular tissues—a distance of about two centimetres from entrance to exit. Third stitch the same, but situated a little behind the entrance of the tubes. The peritoneal covering of uterus included between the stitches was then lightly scraped to denude of epithelium, and the stitches tightened and secured. The abdominal incision above and below was then closed by deep and superficial sutures, and a binder applied. On the seventh day the abdominal stitches were removed, and on the eleventh those holding the uterus. In the second and third cases, it was found necessary to remove the ovary and tube of one side, owing to a salpingitis and oöphoritis. In the latter case, the presence of a small collection of pus necessitated the introduction of a drainage tube. Convalescence uncomplicated in all three cases. An examination, at the end of a year, shows fundus firmly adherent to abdominal wall; cervix, freely movable; a slight degree of ante flexion; no tenderness. In two cases, the symptoms are entirely relieved; in the third, severe sacral pain still remains.

W. L. BANER.

**4. Wassily Sutugin: Contributions to the Mechanism of Labor in Vertex Presentations** (*Sammlung Klinischer Vorträge*, No. 310, 1888).—The object of this paper is to strengthen the position taken by the author in his paper in the *St. Petersburg Medical Journal*, 1875. He adduces additional statistics and arguments to prove that, notwithstanding the almost universal teaching to the contrary, the back of the child, in the later months of pregnancy, is, in the great majority of cases, directed backward and to one or the other (more frequently the left) side. The author's first statistics had given 74.5 per cent as being the proportion of cases in which the back was posterior. He now, having become more expert in palpation, says that the back can hardly ever be made out anteriorly.

In support of his statements, the author gives the statistics of his own cases. His examinations, he says, have been made in the most careful manner, frequently conjointly with an assistant who held the head *per vaginam*, and steadied the breech externally. All cases in which the abdominal wall was too tense to permit of accurate palpation were rejected. He also quotes the experiments of Prof. Kehrer in ruminants. In cows, where there is more reason for the back being anterior, owing to the position of the body, it is in reality normally posterior. The sensations of the mother are also adduced as corroborating his views, the movements of the child being almost always felt anteriorly. He rejects the suggestion of Hennig that this is due to the unreliability of patients in locating peripheral impressions. Great stress is laid upon the spiral position assumed by the body of the child during labor. Suppose the head engaged L. O. A., the thoracic part of the child's back would look to the left of the mother; the lumbar and sacral part would look to the



left and posterior. This twisting on the long axis has been measured by Schatz, who gives one degree for every centimetre in length. There is also a twisting of the uterus which is about two-thirds that of the fetus. The author does not attempt to explain this twisting, but refers to Fischer's researches regarding the spiral law of growth in plants and animals as a possible solution.

W. L. BANER.

**5. Zinnstag : A Case of Conception with Occluded Hymen** (*Schmidt's Jahrbücher der Med.*).—In a primipara 29 years old, menstruating regularly since her sixteenth year, the vaginal orifice was found closed by a bluish membrane one-half centimetre thick, traversed by large veins, which extended from the urethral orifice to the frenulum vulvæ and in which not the finest opening was to be discovered. The urethra on the other hand was so dilated that in the examination it was at first taken to be the narrowed vagina. Z. assumes that the semen found its way through a, in any case very small, opening in the hymen, which only was closed during pregnancy by inflammation ; for copulation later the urethra served exclusively. After cutting through the closing membrane, the woman was easily delivered.

ALBERT PICK. F. PRITCHARD.

## ITEMS.

1. PROFESSOR VON SCANZONI has retired from the chair of Obstetrics and Gynecology at the University of Würzburg, which he occupied for nearly thirty years, and in honor of the occasion was made an honorary citizen of Würzburg.

2. The chair vacated by Scanzoni was first offered to Professor Fritsch, of Breslau, who declined ; then to Prof. Kaltenbach, of Halle, who also declined ; and finally to Prof. Hofmeier, of Giessen, Schroeder's assistant and son-in-law, who accepted.

THE AMERICAN  
JOURNAL OF OBSTETRICS  
AND  
DISEASES OF WOMEN AND CHILDREN.

---

---

VOL. XXI. NOVEMBER, 1888. No. 11.

---

---

ORIGINAL COMMUNICATIONS.

---

THE VALUE OF ALEXANDER'S OPERATION FOR SHORTEN-  
ING THE ROUND LIGAMENTS.  
ESTIMATED FROM THE RESULTS OF TWENTY-THREE CASES.

---

BY

PAUL F. MUNDE, M.D.,

Professor of Gynecology at the New York Polyclinic ; Gynecologist to  
Mt. Sinai Hospital.

---

So much has been written of late about this operation that I, who, so far as I am aware, was the first to perform it in this country (December 12th, 1884), feel that I owe it to myself to report my matured experience with it.

My first operations were reported in the *New England Medical Monthly* for May, 1885 (four cases), and the *New Yorker Medizinische Presse*, January, 1886 (two additional cases, or six in all), in which articles I felt justified in commending the principle of the operation, but doubted whether it would always be practicable, owing to the difficulty, at times, of finding the ligaments. Since then, my increased experience with the operation leads me to modify the last part of this statement, for I now believe that my failure to find the ligaments at all in my third, and on one side in my second case, was my fault and was due to my not recognizing the exact anatomical land-marks

indispensable to the easy seizure of the diffuse terminal portion of the ligament.

My chief object in now reporting my cases is to discuss three points in connection with the operation which are not only vital to its securing a permanent position in gynecological surgery, but which our present large experience enables us to answer satisfactorily—an assertion scarcely tenable three years ago. These three points are the following:

1. Can the round ligaments always be easily found, drawn out, and the uterus thus be elevated and anteverted?

2. In which forms of displacement of the uterus is the operation indicated, justifiable, and likely to be followed by complete and lasting relief?

3. Is the elevation and suspension of the uterus by the shortened round ligaments alone sufficient and is the result permanent? Or does the latter operation require an additional one on the vagina or pelvic floor to insure a complete and enduring recovery?

On all of these three points there still exists great diversity of opinion, accordingly as the operation is condemned by some on theoretical grounds: by others because they failed to find the ligaments; or, having chosen their cases badly, did not succeed in elevating the fundus uteri: or omitted to supplement the operation on the round ligaments by a plastic restoration of the pelvic floor, and thus soon saw the ligaments again stretched and the old displacement return.

The theoretical opponents to the operation are found principally in Germany, where the present tendency to large plastic operations, and especially to abdominal surgery, has lately influenced the gynecological surgeons in favor of the more dangerous, if also more radical, measure of laparotomy and attaching the fundus uteri to the anterior abdominal wall.

On the other hand, among the friends of Alexander's operation (as for brevity I prefer to call it, although "Alquié-Alexander-Adams Operation" might be chronologically and etiologically more correct) a difference of opinion as to the correct indications has also led to more or less disappointment in the results, some operators expecting the shortened round ligaments to retain not only the elevated and anteverted uterus, but also the hypertrophied and prolapsed vagina, bladder and rectum, while others attempted to lift up the adherent fundus uteri

with the portion of the rectum to which it was attached, and were surprised to find this impossible. A fair, dispassionate consideration of these various points, such as I propose and hope to give, will, I think, prove useful to those whose minds are not yet made up in regard to the operation, pro or con., unconditionally.

1. *Can the round ligaments always be easily found, drawn out, and the uterus thus be elevated and antverted?*

My great objection to the operation, when I first attempted it, was the doubt whether the ligaments could always be found. I heard this doubt expressed by experienced gynecological surgeons, who had tried and succeeded, and again tried and failed; and I myself had passed through this experience, being easily successful in my first, failing on one side in my second, and on both sides in my third case. I may say that it was with fear and trembling that I approached each Alexander's operation, never feeling sure that I would not disgrace myself by failing to find the ligaments—a possibility which I always foreshadowed to my spectators before beginning. Obviously, an operation with such an element of doubt at its very inception, could not be very tempting or become very popular, and this uncertainty was not confined to the gynecological operator, for general surgeons of great skill and experience, who had many times performed herniotomy, confessed to me that they had failed to find the round ligaments.

What was the reason of these frequent failures in experienced hands, when Alexander himself claimed never to have missed the ligaments? After several trials and some reflection, I came to the conclusion that a too great attention to the *minute* directions of the inventor, a too careful dissection down to and through the external inguinal ring, and a failure to correctly locate the landmarks surrounding the terminal filaments of the ligament, and to recognize and seize upon the latter as soon as they appeared, were the chief reasons why they were not easily found. I arrived at the decision that the plan of cutting down to the pubic spine layer by layer, ligating such small arteries or veins as might be divided, and separating the lips of the wound with retractors which might easily pull a little too much one way or the other; then, when the spine is reached and the ring exposed, carefully dissecting out the fibres of the ring, picking away the fat which always appears as soon

as the ring is opened, and then groping with forceps for the terminal fibres of the ligament:—all these steps I made up my mind to be unnecessary and more liable to lead the operator astray and to one side, than to aid him in at once grasping the ligament. Once by the side of it, wherein a retractor can be most disagreeably officious in drawing it away, the operator can search forever without finding the ligament, and in disgust gives up the operation, or when about to do so, accidentally comes across it while picking up different portions of the edges of the wound, as happened to me twice. The ligament had simply been drawn away and concealed by the retractor.

This cautious method of procedure was taught me by a perusal of Alexander's work, and certainly commended itself to me as the safest and most rational. But I gradually, partly by accident, discovered that a certain amount of boldness, coupled with anatomical accuracy and proper surgical caution, was the quickest and best plan of finding the ligament. My method of procedure at present, and which I have employed during the latter half of my operations, is the following :

Standing on the side of the patient, opposite to the ligament to be operated on, the patient lying at full length on the table, with the index-finger of my left hand I feel for and distinctly map out the pubic spine, marking its position by firmly pressing down the flesh over it, so as to make a little dent in the skin ; then, being careful not to draw aside or displace the skin, I elevate the index, and firmly holding down the skin with the middle finger and thumb, so as to have a clear space between, with the small dent exactly in the middle, I make a quick oblique incision, from one and one-half to two inches long, *right down to the spine*, so as almost to nick the periosteum. The tip of my index finger immediately touches the spine, which remains my chief guide until the ligament is distinctly recognized, isolated, and drawn out. Bleeding vessels are now usually secured with catgut. This single deep incision slightly nicks the transverse fibres covering the external ring, and through the small slit thus made pops a little knuckle of fat. *This is the "beacon-light" which indicates the location of the terminal fibres of the ligament, and should be carefully preserved.* The less cutting is henceforth done the better. The position of the pubic spine being carefully noted by the left index finger, the pillars of the ring are laid bare by scraping

with the handle of the scalpel, and a larger bunch of fat is thus exposed. As soon as the outlines of the ring are freed and clear, the *whole* mass of fat and connective tissue lying in the ring is gently lifted up with long forceps and an aneurism needle is passed *under it close to the bone*, or it may be bluntly dissected off with the handle of the scalpel. It is exceedingly important to leave none of this bunch of fat, etc., behind, since the ligament might then be the very part not raised up in the forceps or aneurism needle. The attachment to the pubic spine is not severed, however.

This mass now being firmly seized with flat forceps or in the fingers of the left hand, gentle traction is made, and the fibres will be readily seen to extend between the pillars of the ring to which it appears attached. This attachment is usually slight, and merely areolar; it is loosened by sweeping the scalpel handle or left index finger around the cord, the firm, round contour and glistening sheen of which now, as gentle traction is continued, shows it plainly to be the round ligament. This traction is maintained until a firm resistance is encountered, and the length of ligament withdrawn (two to four inches) shows that the probable limit of elevation on that side has been reached. The force required to pull out the ligament can scarcely be described, but it is sometimes quite great, so much so as to alarm novices or timid operators for fear they might break the ligament, an accident which happened to me three times. Before exerting very strong traction on the ligament, it is well to see that the nerve (which is about the size of No. 9 silk, and lies to one side and below the ligament) is divided; I have known this nerve to offer so much resistance as to lead me to suspect adhesion of the ligament in the canal. Often it is separated from the ligament when the latter is detached and drawn out, and need not be cut; or it is torn when strong traction is made.

The ligament having been drawn out to its full length, its terminal attachment at the pubic spine being undisturbed as yet, the wound is covered with a pad of sublimate gauze, and the operation repeated on the other side. As soon as the second ligament is found to be running smoothly in its sheath, the uterus is elevated and anteverted with a sound or repositor, and held so until both ligaments have been drawn out equally, and the fundus uteri lies squarely against the anterior abdomi-



nal wall just above the bladder. That this is the case can be ascertained by drawing out both ligaments at the same time as far as they will go, when the fundus can be felt through the abdominal wall, and the handle of the sound in utero will go straight backward; if one ligament were shorter than the other, the handle of the sound would deviate towards the other side.

The uterus still being elevated and anteverted, the ligaments are attached by stitching them into the wound with silkworm-gut, which is carried on a slender curved needle deep through skin, connective tissue, and pillar of the ring and canal on one side, then through the ligament, and out through the same tissues on the other side. From four to six sutures are usually required. A split-bone drainage tube is passed into the wound under the ligament before the last sutures are tied. When all sutures have been tied, the sound is removed, the pubic attachment divided, and the slack of the ligament cut off smooth with the skin, and the wound, which has been freely irrigated with 1:10,000 sublimate solution, is dressed with sublimate gauze and a spica bandage, and the patient put to bed with elevated knees. The urine is drawn or passed every four hours, and the dorsal recumbent position kept for at least two, generally three weeks; after that the lateral, and, after the fourth week, the erect position; of late, I have allowed the lateral position as a relief to the patient. All straining is carefully avoided. The stitches are removed about the fourteenth day. If the patient is very fat, or if suppuration occurs (which is the case to a slight degree in about one-quarter of the cases), gentle compression of the canal from above downwards is secured by a long, flat weight of lead fastened by a spica bandage. Three-quarters of my cases healed by first intention. A soft ring or a hard-rubber Hodge pessary is inserted before the patients are allowed to sit up, and is worn for six months or longer. This is the routine operation. But there may be certain deviations from the rules just given, which should be pointed out.

In fat subjects, the incision may need to be a little longer than in spare women, but the ligaments can be found with equal ease. I formerly thought differently, and attributed my two failures to excess of adipose tissue which masked the ring; but my mistake undoubtedly lay in dissecting away the very fat which indicated the object I was looking for, and then I

had no guide left by which to find the ligament. In some cases, when the pubic attachment is cut off, the ligament retracts, and can then only be found by splitting up the inguinal canal, or by groping for it at random with forceps, which latter is a very unsatisfactory method. If the pubic spine cannot be easily felt through the skin and fat, it can usually be detected after the skin has been divided.

Usually, after the normal adhesions are detached, the ligament slides easily in the canal on moderate traction. But sometimes there are pathological adhesions, and very powerful traction is required to loosen them. The operator need not be afraid to pass his index finger or the scalpel handle along the ligament into the canal, and to break up these adhesions, and when he has done so, to exert as strong traction as he can or thinks safe. If the ligament is of the usual and normal size, it will not break, but will gradually yield and come out, sometimes with a little jerk. Such adhesions may cause the tractile force to appear to extend in the direction of the superior-anterior spine of the ilium, and thus lead the operator to believe that he has seized and is drawing on Poupart's ligament. This happened to me twice, and only my absolute certainty of having the round ligament in my grasp (because I had picked it up in the ring, as I have described), prevented my giving up traction. In one case, indeed, I had suspended the operation on one side, and gone to the other side, where I found less adhesion, and quite easily pulled out the ligament. Encouraged I returned to the first side, and, employing more force, which my certainty of the landmarks and success on the other side emboldened me to do, soon broke down the adhesions, and drew out the ligament.

If the directions given in this paper are carefully observed, I do not think any operator need fear not finding the ligament, or mistaking one or the other of the pillars of the ring for it.

In one of my last cases, No. 21, operated on after this article was substantially written, the ligaments were picked up with perfect ease and certainty. But they utterly failed to yield to sharp traction, and suddenly broke off so short that they could not be traced and found. I had not expected to find such firm adhesions, and no doubt employed more force in drawing on them than was judicious. The case was a warning to me that every round ligament will not bear the force which, in nearly

all my previous cases, had succeeded in breaking the adhesions and drawing out the ligaments.

The thickness of the round ligaments varies so much that no positive estimate can be given in advance; indeed, they may be of greatly different size in the same woman, one ligament exceeding even the normal size of a goose's quill, and the other being only as thick as a knitting-needle. And occasionally, as has been proved by dissection on the cadaver, the ligaments may be so atrophied as to be entirely unrecognizable. Ligaments of the size of a knitting-needle can scarcely be relied upon to sustain the uterus, since they are pretty sure to stretch in course of time and allow the organ to drop back and down into the pelvic cavity.

Herein, it seems to me, lies one of the chief objections to the operation, the other objection being the possibility of firm adhesions in the inguinal canal, neither of which conditions can ever be foretold. Evidently, if the ligaments are so thin and feeble that they will inevitably give way soon or again become stretched, or if the ligaments cannot be drawn out, the operation is a failure so far as the object is concerned for which it was performed.

One operator (Abbé) has employed the ingenious device of using the excess of the ligament as a suture for the wound; but I should think that the large size of the needle required to permit the ligament being passed through its eye, and the perishable nature of this live animal suture, would prove objections. Besides, I do not see the special advantage of this plan; silk-worm-gut is vastly more convenient and can be left in situ as long as desired.

One method of making the external incision has been to make a transverse cut from pubic spine to pubic spine, and then tie the ends of the ligaments together and stitch them into this wound. The idea was, I believe, to avoid inflicting two wounds; but the originator, Polk, tells me that he has given it up because the large wound healed badly and there was no special advantage in it.

An objection which would naturally occur to any one, is that most women, particularly in the higher grades of life, might dislike to have two such wounds inflicted upon them, the scars of which would remain visible forever after. This is undoubtedly

true; but if there is an abundant growth of pubic hair, the scars will soon be completely covered.

Another possible objection is the danger of an inguinal hernia forming sooner or later after the operation. So far as I know, no such special tendency has been observed; indeed, if the cicatrix is solid, one would expect less danger of hernia than before the operation.

In one of my cases (No. 10), the patient complained for some time of inability to hold her urine as long as previously—a symptom no doubt caused by the pressure of the somewhat too well elevated and anteverted uterus on the bladder. Although this result has not been observed by other operators, its possibility should be borne in mind when drawing up the slack of the ligaments.

I still have to answer the query, *Can the uterus always be elevated and anteverted by drawing on the round ligament*; which I do decidedly in the affirmative, whenever the fundus uteri is not bound down by adhesions and the ligaments possess their normal play in the inguinal canal.

In concluding this portion of my subject, I will say that my later experience entitles me to feel that, with normal ligaments (that is, when they are not entirely absent, congenitally or by atrophy, or very abnormally small) I can expose and draw them out in nearly every case within from five to fifteen minutes for each side, thus reducing the time required for the whole operation, including the stitches, in a favorable case, to less than half an hour.

*2. In which forms of displacement of the uterus is the operation indicated, justifiable, and likely to be followed by complete and lasting relief?*

In long-standing retroversion or retroflexion of the uterus, especially when associated with descensus or actual prolapse of that organ and more or less protrusion of the vaginal walls with bladder and rectum (cystocele and rectocele), that is, when the pelvic floor is either injured or relaxed beyond non-operative restoration; then the operation of shortening the round ligaments effects what no mechanical contrivance and no other operation of like safety can achieve, viz., a retention of the displaced uterus in its normal position without discomfort to the patient.

I assume that the mechanical supports devised for these con-

ditions have been given a fair trial and have failed, because every now and then a patient will be found who wears with comfort a sharply curved, large Hodge or bulb-lever pessary, and prefers this, in such cases always merely palliative, remedy to a radical cure by operation. But in the majority of cases of the kind referred to, no pessary that can be borne will be retained; and those that are retained cause pain or produce erosion by pressure; and hence an operation is the last resort.

I would except as suitable for the operation women of such advanced age that the defective nutrition of all tissues would render firm union improbable. Still, I can hardly define where the line should be drawn beyond which plastic operations are inadmissible, and must leave the decision to the judgment of the operator in each case.

From our knowledge of the causes which produce the pathological conditions justifying Alexander's operation, it is to be inferred that the large majority of the women thus afflicted have borne children, probably many.

But this rule is not without its exception. Thus Case 13 of my table was a young girl of 24 years, whether a virgin or not I cannot say, but certainly a nullipara, who came into the hospital with the unusual condition of a complete acute prolapse of the whole uterus and vagina, produced by lifting a heavy washtub. The prolapse was reduced, but the patient complained of so much bearing down that three months later she returned to the hospital, and I shortened her round ligaments and restored her very much torn perineum with complete relief.

Case 17 is an illustration of another variety of displacement which may call for this operation, viz., a sharp retroflexion, with congenitally shallow vagina which offers no resting place for an intravaginal pessary, and where the Cutter-Thomas vagino-perineal stem with adominal belt, usually employed to deepen the posterior vaginal pouch in such cases, could not be borne on account of a prolapse of both ovaries. It was hoped that the attachment of the fundus uteri forward would result in also lifting the ovaries out of the pelvis, but I regret to say that the left one, being slightly enlarged, was still prolapsed when I last examined the patient.

Cases of backward displacement and descensus of moderate degree which are comfortably managed by vaginal supporters; further, cases where the retro-displaced fundus is more or less

immovably adherent to the rectum, are in my opinion not cases calling for or admitting Alexander's operation. The free, even excessive, mobility of the uterus I consider to be the one essential condition justifying it. I have only once operated on a case with limited mobility, adding perineorrhaphy, and the result was fairly good. But it stands to reason that it is unfair to expect the round ligaments, attached in the inguinal canal as they are by sutures, to bear the strain inevitably acting on them from a uterus which is constantly being dragged back by the adherent rectum or by the contracted utero-sacral ligaments. The operation was not intended for such conditions.

Therefore, I particularly wish to emphasize this point, that *adhesions of the uterus absolutely forbid Alexander's operation.*

In complete prolapsus uteri et vaginae, I also think too much is asked of the round ligaments when they are expected to permanently sustain a perhaps enlarged uterus with a thick relaxed vaginal column dragging on it. It strikes me like trifling with the operation to perform it alone in such cases; and I have always felt it my duty, as well as a logical indication, to add to it the plastic operation or operations designed to narrow the vagina and restore the integrity of the pelvic floor.

Some operators write of having shortened the round ligaments for anteversion with descensus, in order to elevate and suspend the organ out of the pelvis. This indication does not appeal to me, since I do not think the slight degree of lifting of the uterus would compensate for the unavoidable increase of the anteversion and the pressure on the bladder. The same objection applies to the use of the operation in ante flexion, with the object of straightening out the flexion by drawing up the fundus. In both these cases the remedy would seem worse than the disease.

3. *Is the elevation and suspension of the uterus by the shortened round ligaments alone sufficient, and is the result permanent?*

*Or does the latter operation require an additional one on the vagina or pelvic floor to insure a complete and enduring recovery?*

If the pelvic floor is intact and the displacement is merely a retroversion or reflexion with but a *slight* amount of descensus, my experience entitles me to say that the operation of shortening the round ligaments alone suffices and, having been a success,



the suspension of the uterus is permanent. A reference to the accompanying table shows that of the 23 operations 19 were successful; in two the ligaments were not found, and in two they were both torn off. Of the 19 cases, 15 remained under my own observation or that of colleagues, for periods varying from three months to three and one-half years, and in all but one of these cases the uterus was retained *absolutely* in the position which it occupied when the operation was concluded. In one case only (No. 19), of prolapsus and rectocele, operated on March 21st, 1888, Hegar's operation of colpoperineoplasty being added to the Alexander's, did the fundus uteri drop slightly back again, so as to leave the uterus eventually lying horizontally with and close to the anterior abdominal wall, instead of anteverted. But the elevation of the whole organ out of the pelvic cavity was maintained, and the object of the operation therefore considered attained.

In one case, No. 4, the ovaries were subsequently removed by Dr. R. F. Weir (I having declined the operation). He states that he found the uterus well sustained and in normal position. This condition is stated to me by Dr. Coe, who saw the patient during the present month (three years after the operation), to be still maintained.

When, however, the perineum was destroyed or the pelvic floor was injured or so relaxed as to give no support to the vaginal walls, which in consequence prolapsed and dragged down the uterus, or when there was more or less complete prolapse of the uterus and vagina, I have thought it wise always to supplement the Alexander's operation by narrowing the vagina and restoring the perineum, the methods employed being in two cases Emmet's old butterfly denudation, in three cases Emmet's new crescent denudation; and after my return from Europe in August, 1886, where I saw Wiedow, in Freiburg, do Hegar's posterior colpoperineoplasty, the latter operation in 7 cases. Once a simple perineorrhaphy was performed, but not with the intention of adding support to the vagina or uterus.

In one case (No. 6), there existed, besides the retroflexion and descensus, a large laceration of the cervix, a vesico-vaginal fistula, a lacerated perineum, and external hemorrhoids. I had intended doing all these operations in one sitting, in the following order: 1, cervix; 2, fistula; 3, Alexander's; 4, perineum; 5, hemorrhoids. But after completing the cervix and fistula

operations. I found the patient taking ether badly (she was very anemic) and therefore merely rapidly seared off the hemorrhoids, and postponed the Alexander's and perineum operations to another day. Primary union having been obtained, one month later I successfully performed the two remaining operations.

In Case 14, I performed trachelorrhaphy, Alexander's operation, and anterior (Stoltz's method) and posterior (Hegar's) colporrhaphy, in one sitting of exactly one and one-half hours' duration, the patient under chloroform, with union by first intention throughout. In 9 of the 23 cases, trachelorrhaphy preceded the Alexander's and other operations at the same sitting. Silver wire sutures were always used, and allowed to remain a month or longer. In 9 cases, posterior colporrhaphy was performed after the round ligaments were shortened, and in 4 cases the perineal laceration was repaired. Thus, in only 7 of the 23 cases was Alexander's operation performed alone.

Anterior colporrhaphy was found necessary only once, because in all the other cases of prolapse of the vaginal walls the cystocele was found reduced when the uterus had been elevated and anteverted by shortening the round ligaments.

I have heard some operators speak of performing the plastic operations on the vagina and perineum first, and then the Alexander's. This appears to me like "putting the cart before the horse," for only after the uterus has been elevated and anteverted can we tell how much the vagina needs to be constricted. Chiefly the anterior wall, but also somewhat the posterior wall of the vagina, is drawn up when the cervix is pulled backward by the elevation and anteversion of the uterus, and thus a plastic operation on these parts may be much reduced in extent.

The suture in posterior colporrhaphy was always thick catgut, with a few deep silkworm-gut sutures passed from the skin of the perineum as stays to the catgut. The former were removed in about two weeks; the catgut, of course, was not disturbed.

When only the round ligaments were shortened, a lever pessary was inserted immediately after the operation; if colpo-perineorrhaphy was also performed, a soft-rubber ring, or small lever pessary, was inserted before the patient was allowed to sit up at the end of the fourth week, and in all cases this pessary was directed to be worn, with usual precautions as to re-

*Operations for Shortening the Round Ligaments by Paul F. Mundé.*

No.	Date.	Name.	Age.	Married or Single.	Children.	Indication for operation.	Other Operations performed at same sitting.	Permanency of Result when last seen.	Remarks.
1	Dec. 12th, 1884.	K. R.	38 M.		2	Retroversion, 2d deg. prolapse		Still good in March, 1888.	
2	Dec. 17th, 1884.	A. H.	28 M.		5	Prolapsus 3d, retrover- sion 2d deg.	Trachelorrhaphy, colporrhaphy.	Good, fall, 1887.	Only one ligament found
3	Jan. 9th, 1885.	M. F.	25 M.		1	Retroversion 2d deg.	Trachelorrhaphy, perineorrhaphy.		Ligaments not found.
4	Oct. 7th, 1885.	C. C.	30 M.		2	Retroversion		Perfect 2 years later, Dr. H. C. Coe.	
5	Nov. 18th, 1885.	A. B.	39 M.		6	Retroversion	Trachelorrhaphy, perineorrhaphy.	Perfect.	
6	Jan. 13th, 1886.	H. D.	42 M.		6	Retrollexion 3d deg. Descensus.	Perineorrhaphy.		Dec. 16th, 1885, oper. for trachelorrhaphy, ves.-vag. fistula, ext. hem-orrhoids.
7	April 7th, 1886.	M. K.	39 M.		5	Retroversion, rectocele.	Trachelorrhaphy, post. colporrhaphy.	Perfect.	
8	May 14th, 1886.	N. W.	34 M.		1	Prolapse, Retrollexion, } 2d deg.		Perfect.	
9	Nov. 9th, 1886.	M. L.	34 M.		4	Retroversion, ut. freely movable.	not Perineorrhaphy.		
10	Jan. 19th, 1887.	J. B.	39 M.		11	Prolapse 2d degree.	Colpo-perineorrhaphy.	Perfect.	
11	May 11th, 1887.	C. M.	27 M.		3	Retroversion, 1st degree.	prolapse,		May 19th, ant. and post. colporrhaphy.
12	May 18th, 1887.	E. G.	29 M.		4	Prolapse 2d, retroversion 3d; ovaries prol.	Post. colporrhaphy.		

No.	Date.	Name.	Age.	Married or single.	(children.)	Indication for Operation.	Other Operations Performed at same Sitting.	Permanency of Result when last seen.	Remarks.
13	Sept. 21st, 1887.	G. G.	24	S.	0	Prolapse, 3d degree.....	Post. colporrhaphy.....	April, 1888, perfect....	Acute compl. prolapsus ut. et vag. 3 mos. before.
14	Nov. 6th, 1887.	A. C.	31	M.	3	Prolapse u. and v., retroversion.	Trachelorrhaphy, ant. and post. colporrhaphy	Perfect, May, 1888 ...	
15	Dec. 18th, 1887.	R. K.	38	M.	9	Retroversion, prolapsed one ov. prol.	Trachelorrhaphy, post. colporrhaphy.	Perfect, May, 1888....	
16	Feb. 8th, 1888.	S. K.	28	M.	3	Retroflexion....	Trachelorrhaphy.....	Perfect, October, 1888.	
17	Feb. 15th, 1888.	M. A.	20	M.	0	Retroflexion, short vagina, both ov. prol.	.....	Perfect for uterus, May, 1888.	Left ovary large and again prol. Bulb pesary.
18	Mich. 7, '88.	T. K.	23	M.	1	Retroflexion ....	.....	Perfect.....	Very thin ligaments.
19	Mich. 21st, 1888.	A. B.	30	M.	4	Prolapsus ut. and rectocele.	Colpoperineorrhaphy....	Uterus horizontal with ant. abdom. wall, April, 1888.	Left ligament adherent.
20	Mich. 28th, 1888.	M. H.	39	M.	4	Prolapsus and retroversion 8d deg.	Trachelorrhaphy, post. colporrhaphy.	Perfect, Oct., 1888....	Both ligs. adherent, but pulled out completely.
21	June 30th, 1888.	R. K.	30	M.	1	Retroversion, rectocele.	Post. colporrhaphy.....	.....	Both ligs. adherent and broken off on strong traction.
22	Oct. 3d, 1888.	M. P.	32	M.	0	Prolapsus 1st deg.....	.....	Still too recent, but now in good position.	Left ligament adherent. Both broke off, but found and drawn out.
23	Oct. 10th, 1888.	F. N.	24	M.	1	Retroflexion 3d degree...	Trachelorrhaphy. Lever pessary inserted just before Alexander's operation.	Uterus still too recent. now in normal position.	Old posterior adhesions stretched by months of tamponing, etc., until uterus was freely movable.

moval and cleansing, for six months or longer, until the scars had become perfectly firm.

The combination of Alexander's operation with other plastic and restorative operations on the genital organs, in my opinion, does not in the least detract from the former, but merely shows that its scope is limited and that it needs auxiliary measures in some cases. Without the Alexander's, however, these "auxiliary measures" would be of small benefit.

I have said nothing about the dangers of Alexander's operation, because they are practically *nil*, if proper antisepsis is employed. Several deaths from septic peritonitis have, it is true, occurred, but so may any small operation occasionally prove fatal by sepsis, tetanus, or some similar cause.

In reporting these experiences with Alexander's operation, I have endeavored to avoid a too sanguine spirit as to the permanency of the results, and have therefore waited, as it seems to me, a sufficiently long time, from two and one-half years to three months, before publishing my seventeen later cases. On the strength of this experience, I must confess myself decidedly in favor of the operation, which in properly selected cases usually does what is expected of it, at a very slight risk and with but little pain or inconvenience to the patient. To expect more of it than it can possibly perform is unreasonable, and is not giving it a fair trial.

So far as I have heard, none of my patients have stood the supreme test of the permanency of the result by becoming pregnant and being delivered at term without a return of the displacement. But Alexander himself, and Polk, have been so fortunate as to witness this occurrence.

All but two of my operations were performed on hospital patients, hard-working women, upon whose pelvic organs a much greater strain would naturally be exerted by their daily duties than would be the case in the wealthier classes.

Until my failures with Alexander's operations largely outnumber my successes, I do not think I shall substitute for it the modern more dangerous operation of stitching the fundus uteri to the anterior abdominal wall. The cases, indeed, in which this latter operation has chiefly been recommended of late, especially by Saenger and Klotz, are those in which the retroflexed fundus uteri is firmly bound down by adhesions (Saenger's "*Retrifixatio uteri*")—cases which I expressly omit from my list of

conditions indicating Alexander's operation. The difficulty and even impossibility of separating such adhesions with the intra-abdominal finger was lately demonstrated to me in a case where I absolutely failed to break down the adhesions so as to be able to distinguish and liberate the uterus, and after considerable hemorrhage was obliged to close the abdominal wound; fortunately the patient recovered. The combination of hysterorrhaphy (or stitching the fundus uteri to the anterior abdominal wall) with Alexander's operation at the same sitting, as recommended and twice performed by Polk, is certainly ingenious, but has so far apparently attracted the attention only of Sännger, who disapproves of it on the ground of "too much operative treatment."<sup>1</sup>

The very plausible idea of Wylie to double up the round ligaments and secure them by ligatures and sutures after the adherent uterus has been detached through an abdominal incision, as practised by him successfully in five cases,<sup>2</sup> still needs the confirmation of time and of other operators.

I do not think, therefore, that the proper field for Alexander's operation is likely to be encroached upon very soon by any of these larger and more dangerous intra-abdominal operations. In the report of the recent meeting of the German Gynecological Society at Halle during May of the present year, Winckel is mentioned as saying that "he had satisfied himself in America of the failures of Adams' operation." I do not know what operators Winckel saw perform the operation, or from the observation of whose cases he "satisfied himself" that it was a failure. But surely not from mine; and from what I have heard of the results of Polk, who has performed far more Alexander's operations than I, I cannot imagine that his cases could have given Winckel such an impression. I know from personal conversation that Winckel was prejudiced against the operation, but, so far as I could gather, on theoretical grounds only. I am sure could he see those of my cases on which I have felt justified in basing my belief in the value of the operation and the permanency of its results, he would, with his usual fairness and candor, admit that he had been hasty in his expression regarding his American experience with the operation.

<sup>1</sup> German Gynecol. Society, Halle, May, 1888. Arch. of Gyn., vol. 32, No. 3.

<sup>2</sup> Pittsburgh Medical Review, 1888.



I will conclude this article by pointing out the fact that, while my opportunities for seeing cases of uterine displacements are probably equal to those of the majority of my colleagues, I still have not allowed my ardor for this operation to carry me so far as to perform it as frequently as I readily might have done, nor have I ventured to undertake it without ether, as I see a Western colleague is reported to have done. But I trust my conservatism in selecting suitable cases may preserve me from the imputation of haste or "operative frenzy," and may add at least some weight to my judgment in its favor.

---

### REPRESSION OF MENSTRUATION AS A CURATIVE AGENT IN GYNECOLOGY.<sup>1</sup>

BY  
EUGENE C. GEHRUNG, M.D.,  
St. Louis.

---

MENSTRUATION is a periodical, usually sanguineous flow of variable quantity and duration, to which most women are subject for a shorter or longer period of their lives.

This short definition of menstruation shows at a glance the great uncertainty surrounding every phase of this process. In fact a search through literature on this subject shows as many different opinions as there are authorities consulted. A certain degree of order may, however, be brought into this chaos, sufficient for our present purpose, and without the necessity of quoting the different opinions at length, by choosing the outside limits of the various estimates, which will read as follows:

Menstruation returns every twenty to thirty-one days; lasts from two to eight or ten days, causing a loss of blood of from two ounces or less to eighteen ounces or more.

To encompass the irregularities of menstruation, a still greater latitude must be allowed, as the following quotations will show:

"The fluid is not in all cases sanguineous; indeed, its bloody character may be regarded as accidental, though present in the infinite majority of cases."<sup>2</sup> . . .

"Another observation of great interest has been alluded to by Dr. James Stirton<sup>3</sup> to the effect that in certain barbarous tribes of South Africa, whose habits of life closely approach

<sup>1</sup> Presented to the American Gynecological Society, Sept., 1888.

<sup>2</sup> Diction. of Medicine, Quain.

<sup>3</sup> Glasgow Medical Journal and Annals. Univ. Med. Science.

those of the brute creation, the women menstruate only at irregular periods and in a very scanty manner. And further, that menstruation itself is slowly inaugurated with a discharge of mucus, as in the case of what may be termed the menstruation of the inferior animals. In these women it is said that nothing like normal menstruation takes place until after indiscriminate intercourse has been practised.

“ Dr. Stirton believes that menstruation is a product of civilization, supporting his theory by facts drawn from a study of comparative physiology. . . . Complete suppression of the menses is alleged to take place very frequently among the women of Greenland, especially during the winter season, and that, too, without entailing the slightest disturbances of health. Similar conditions are said to prevail among the inhabitants of the higher mountainous regions of Switzerland and France.”

There has been no lack of observation of the phenomena of menstruation, and these have led to a tolerably fair understanding of this process as it occurs at present, though little or nothing is definitely known as to Nature's original intentions.

The mechanism of menstruation, considered in the light of this essay, is as follows :

From some yet unknown or insufficiently known cause a gradual retention of blood in the venous plexuses of the pelvis takes place, causing a hyperemia or engorgement of all the pelvic organs and tissues. The blood for this purpose is withdrawn from the general circulation, producing lassitude, malaise, etc., while in the pelvis heaviness or fulness, so generally complained of, is produced, constituting what is called the menstrual molimina. Only a slight discharge is necessary, usually from the endometrium, to relieve the over-tension, when the balance returns to the general circulation from whence it came.

It is not the amount of blood in the body which conditions the amount of engorgement, nor is it the amount of engorgement that determines the amount of the flow ; *it is the complete or incomplete balance between the engorgement and the resistance to it, whereby the amount of the flow is regulated.* The engorgement itself is regulated, and stands in direct relation to the tonicity or atonicity of the respective nerves and muscles. The resistance consists in the amount of obstruction placed in the way of the flow, especially the contractile power of the uterus.

If the degree of engorgement and the opposed resistance are equally balanced, there will be little or no sanguineous flow; if the engorgement predominates over the resistance, the flow will be correspondingly profuse; on the other hand, if the engorgement be feeble, and the resistance marked, there will be little loss, if any. Again, a slight engorgement opposed by little or no resistance will result in a considerable flow, while a pronounced engorgement meeting with a strong resistance may be followed by scarcely any flow. There are many degrees and variations between these extremes.

From what has been said, it is not difficult to see that in weak and nervous women, on account of the imperfect innervation, the engorgement should run high in proportion to the amount of blood in the system, and, on account of the weak musculature, the resistance would be small and, in due proportion, the flow great, while in a strong and healthy woman, from opposite conditions, the flow would be small.

The engorgement having subserved its purpose, the blood that has not been wasted will slowly return into the general circulation. How much was Nature's intention to be wasted in this process?

My answer is: Little in the strong and healthy; little or none in the weak and anemic.

The menstrual flow with women of the present day is greatly in excess of the actual want, even though it be confined entirely within the so-called physiological limits, because of the increasing engorgement and the decreasing resistance in consequence of the depressive influences of civilization, the effects of the constant repetition of menstruation, the effects of pregnancy and labor, and finally from the transmitted habit by inheritance.

Strong and robust women stand the loss of great quantities apparently well during a long period of their menstrual life, yet the final result is that their constitution is undermined, and, despite their healthy appearance, their vital power is sapped, and on closer investigation it will be found that that appearance of health—plethora, corpulence, etc.—is nothing more than a mask for the underlying group of symptoms denoting anemia.

If the great losses are tolerated badly even by strong and apparently healthy women, if this waste leads even with them to constitutional depravation, how much more must this be the

case with the nervous, weak, and anemic women. These having a far greater propensity to excessive bleeding, because of their weakness and impoverished blood, favoring a greater degree of engorgement, accompanied with diminished resistance.

Some of the evils consequent of this uncalled-for waste are: Neuralgia, neurasthenia, melancholia, anemia with all its neuroses and circulatory disturbances; chlorosis (?); uterine diseases, such as flexions and versions, vegetations and even inflammations, diseases of the uterine appendages, etc. All of these troubles may prove incurable without removal of the cause.

Every practitioner will recall a number of those pitiful cases of broken-down constitution, nervous to the verge of insanity, complaining of all ills flesh is heir to, who under appropriate treatment improve for a while until the next return of the menses mercilessly destroys all that has been gained. The woman's whole existence is spent in making blood enough to be again uselessly spilled at the next menstrual period, while the physician is driven to despair of an ultimate success. Tonics, hemostatics, styptics, diet, travel, hydrotherapeutics, rest, etc., are prescribed heroically, and the result is usually disappointment.

The poor, thus afflicted woman passes from the hands of a neurologist into those of a gynecologist, and again from the latter to the former, until exhausted in confidence, blood, and means. Each in his turn has honestly done the best in his power; all that teachers and books have taught him. All are more or less conscious that each recurring menstruation destroys again the fruits of their labor. Yet, who has the courage to interfere with that almost sanctified function (?), menstruation!

The physician is convinced that his patient should not lose blood, in fact that she cannot afford to lose any, but that inexorable menstruation, that *noli me tangere*, will exact a certain amount of this vital fluid, while the physician is *begging* nature to relent, by means of the routine treatment, where indeed, if he possesses the courage to destroy this idol, he can *command* by the TAMPON.

Yes, the tampon is *the* remedy (assisted or not by other means, as may be desired) which stands at the disposition of every practitioner, whereby he may regulate the amount of loss in menstruation, according to the necessity of the case, to the best

of his judgment. However little the amount lost in a given case may be, it may be far greater than is admissible for the welfare of the individual under consideration, and it should be lessened or arrested without fear. The blood thrown into the pelvic reservoir, constituting the menstrual engorgement, is certainly not intended to be cast off in toto. If the engorgement is great, only a small amount is destined to flow away to relieve the over-distention until the determination to the pelvis is past, when the blood may safely return to the general circulation. Since it is not bad blood, as has formerly been imagined, but the same as is used in the balance of the economy, the quantity so reserved is fully as useful as a similar quantity gained by the use of tonics or transfusion.

These are not theories, but facts, well proven by the results of my practice, covering a space of nearly two years, and gained from a great number of cases.

Despite the great reluctance of gynecologists of even the present day to interfere with a menstruating woman, it will not be long ere, in appropriate cases, the time of the catamenia will be selected for gynecological treatment, in preference to the intermenstrual period.

The amount of blood thus saved not only lessens the anemia with its sequelæ, but diminishes the tendency to waste in the future, by lessening the tendency to transudation on account of the improved quality of the blood, and by increasing the resistance in consequence of improved tonicity of the uterus, etc., and by destroying the habit of great losses.

In cases of delayed menopause from the habit of excessive engorgements and losses, this termination of the great menstrual cycle may be enhanced, to the great advantage of the patient, in whom the continuance might have been a source for the development of tumors, cancer, etc.

Besides these immediate benefits of repressed menstruation, the direct benefits of the tampon are gained at a time when the tissues are in the best condition to receive them. The pressure, support, and medication of the tampon will frequently bring about results which have been sought in vain to be obtained at other times and by other means.

In opposition to this treatment, the bad results of amenorrhea, suppression of menstruation, etc., may be mentioned, but these are the results and not the causes of some local or general

diseases, and besides this treatment is not intended to be a suppression, but merely a repression of menstruation, in appropriate cases.

The tampon is preferably made of absorbent cotton; that made by Johnson & Johnson, for the use of surgeons and dentists, consisting of a thin, endless layer, is the most convenient to handle. This may either be made in little balls of the size of a pecan to that of a walnut, or torn lengthwise in two to four slips of twelve to twenty-four inches in length. These being squeezed dry from a solution of 1-100 to 2-100 alum and water are packed, the former in lumps, the latter in strips around and upon the cervix secundum artem, until the vagina is filled. Either a Sims' speculum or a bi- or tri-valve speculum may be used. I prefer a short bivalve speculum for ordinary cases, and for virgins a small trivalve, which I had expressly constructed for that class of cases, and which can be used without stretching the hymen. To make the tampon solid, I use two pairs of uterine dressing forceps, the one to press the tampon in the opposite direction from where I intend to make the next application by the other. In this manner a very efficient tampon can be applied, without much inconvenience to the patient or the physician. When complete, the tampon can be fixed by the two points of an open pair of forceps, while the speculum is withdrawn. Of course variations may be made in the kind of speculum used, the medication of the cotton, and manipulation in placing the tampon to suit the operator. The tampon is then left untouched for forty-eight hours, unless the bleeding should recur sooner, when it should immediately be applied fresh. This does not only lessen or stop the bleeding, but also the duration of menstruation; as a person habitually bleeding for eight or ten days may be entirely through in two or three days. Nothing should be introduced into the cervix or uterine cavity. During this treatment rest is desirable, though not absolutely necessary.

When should the tampon be applied?

I give the patient directions to call at my office or send for me on the first sign of the coming menstruation. I find that, even with this precaution, as much or more blood is usually lost before the tampon is applied than is necessary or desirable; if not, the latter may be applied more or less loosely, so that a sufficient quantity can soak into the tampon.



If a tampon has been used during the full time of the usual duration of menstruation in a given case, and if, after the bleeding had ceased, it recommences again, one may almost be sure to find intra-uterine vegetations, tumors, or other complications that may have formerly been overlooked, as the cause.

My first attempts were of course made hesitatingly, and almost unconsciously, because I was held in abeyance by the same dread which everybody else possesses, that any interference with menstruation is fraught with danger. Who has not, at times, studied with anxiety a sanguineous flow from the uterus, for the purpose of distinguishing whether it be a hemorrhage or menstruation, to enable him to treat the same correctly, that is, to arrest a hemorrhage or to let the menstrual flow alone. At times, this distinction is not easy, if at all possible, but the differential diagnosis is not so important, since both will come under the same treatment. There are certainly exceptions to this rule, as for instance when there is hemorrhage from a possibly pregnant womb, etc.

"I would not touch a woman during menstruation with a forty rod pole," is the warning ejaculation of a prominent gynecologist of this city, and the majority of the profession doubtlessly sympathize with him on this subject. The laity is possessed of still greater awe for the mysteries of menstruation. At times it is not an easy task to overcome the superstitious fear of a woman so as to gain her confidence and permission to interfere with her menstruation.

It is, however, gratifying to see with what facility the better class of women will recognize the soundness of the practice when explained to them. With the lower classes, the less reasoning the better.

One of my first cases was that of a plethoric and well-developed lady, æt. 48 years, widow of a physician, who had been menstruating profusely for eight to ten days at each period all her menstrual lifetime, but is still the picture of health. For several years she suffered from occasional hemorrhages, caused by vegetations on the endometrium, for which I curetted the uterus several times with temporary benefit, as the vegetations were constantly reforming, apparently on account of the great relaxation of the entire uterus. These attacks became rather more and more frequent and it appeared as if a malignant degeneration had set in, as even curetting ceased to give lasting

relief. After a hemorrhage that lasted from one menstrual period to nearly the next, only controlled by the vaginal tampon (intra-uterine tamponing made matters worse, as the uterus relaxed so completely that the blood would find its way around the plug, no matter how tightly packed), the cessation of the flow was finally accomplished.

The patient, instead of being gratified with the result, expressed her displeasure in the following words: "Doctor, what is to become of me? I am completely discouraged. Now we have succeeded in stopping the hemorrhage and in two days from now, my menstruation is to come on again, with a good prospect for another month's bleeding." I said to myself and to the patient that it could not be possible that, after a hemorrhage of nearly four weeks, there can be any need for more loss of blood, though it may come under the pretense of menstruation. So I gave directions to inform me of the first symptom of the expected flow, to enable me to use the tampon from the very outset, so as not to lose one drop of blood if it could be prevented. This appeared quite rational to the patient, but soon superstition gained the upper hand and she raised all possible objections against such a proceeding.

These were reasoned away one by one and finally I succeeded in getting her consent and promise to send for me in due time. The tampon permitted but an insignificant loss and the lady felt stronger than after any menstruation for many years past, besides she began to recover rapidly from other complications which before had resisted all treatment directed against them. I succeeded in persuading the patient to permit the same treatment for several successive months, despite the prophecies by lady friends of the terrible consequences of such a practice. The result of the treatment is, that the uterus is now perfectly healthy and the lady enjoys better health than she has done for many years past, in fact is well.

This and many other cases of a similar character emboldened me to use the same remedy in cases of profuse menstruation with symptoms of anemia and its sequelæ, and finally to use it even where menstruation was considered to be normal or even scant, where I had previously been attempting in vain to make blood by the usual means.

I am at liberty to state that I have not met with any unpleasant or detrimental effects, and certainly have not had cause

to regret the treatment. On the contrary, in almost all cases which I have so treated, and their number is large, the patients have been as highly elated with the results as I was myself. In many cases which have been in my care, or that of others for a long time, the first signs of improvement in the otherwise incurable diseases have been noticed soon after this treatment had been instituted.

It is easily comprehensible that it takes a long time to collect satisfactory results of a mode of treatment which can be used not oftener than about once a month in an exclusively private practice. Therefore, I shall not prolong this article unnecessarily by a report of cases and other minor details, but shall content myself by having thus broadly stated the results of my observations with the remark that further study of this plan of treatment, by myself as well as others, may develop even more encouraging results than those here reported: while on the other hand the results may have been overestimated or misinterpreted by me.

Further observations will help to decide in what class of cases and to what extent the remedy is admissible; to what extent the flow may be repressed with benefit, and what benefits may be expected therefrom.

Heretofore I feared that I was standing alone in the proposition of artificially restricting menstruation, as a curative means for many diseases which have been a stumbling block to gynecologists, and felt great hesitancy to come before the profession with such a proposition, but to my great pleasure and relief my eye fell upon an abstract in the *Medical Times* for June, 1888, of an article by Loewenthal in the *Revue de Thérapeutique* which in a certain way serves to corroborate my observations, and which, in the absence of the original article, I shall quote here in full.

“ *Artificial Repression of the Menses in Chlorosis.* ”

“ Loewenthal, of Lausanne, records twenty-three cases in which the artificial repression of the menses has been very advantageous in this disease. The method employed consisted in injections of warm water of about forty-nine degrees (Cent.), with absolute rest in bed. In some cases iced water was employed in preference to warm. Eighteen cases were chlorotic, and all were cured rapidly without other treatment than from three to

five menstrual suppressions. Five were grave cases of hysteria, one of whom showed marked improvement, while three other cases were convalescent from exhausting illness, and in them the convalescence was much shortened. No bad effects were noticed."

The means employed by Dr. Loewenthal to effect the repression appear to me of doubtful propriety, because of their uncertainty and dangerous character.

My rule for submitting a case to the use of tampon has heretofore been based on the answer of the following questions:

How much blood does the patient lose? And

How much can she afford to lose?

If the sum of the former question proved to be in excess of the latter, I did not hesitate to use the tampon to a sufficient extent to limit the loss to the amount calculated, to the best of my ability.

I feel quite convinced from my observations that a loss of from two to four ounces (sixty-four to one hundred and twenty eight grammes) will satisfy the demand in any case; while in anemic persons, from profuse menstruation or from any cause whatsoever, all should be saved that can be saved. Even where no flow at all was permitted in such cases, no bad effect has been observed; on the contrary, the benefits were marked in proportion to the completeness of the suppression.

If my estimate of the quantity of blood which should or may flow during menstruation is correct, then it is pitiful to behold what rivers of life are wasted monthly. I sincerely hope that in the future much of this waste may be arrested and used to a better purpose in the economy.

CESAREAN SECTION, NECESSITATED AND JUSTIFIED BY  
HYPERTROPHIC ELONGATION OF THE CERVIX; REMOVAL  
OF A LIVING FEMALE CHILD OF SEVEN POUNDS  
WEIGHT.<sup>1</sup>

---

BY

JNO. S. COLEMAN, M.D..

Augusta, Georgia.

Fellow of the American Surgical Association.

---

INASMUCH as I believe that the following case stands alone in medical literature, I shall make no apology for detailing every circumstance connected with it.

On the 27th of February, 1886, I was requested by my friend, Dr. W. H. Foster, to see with him B— A—, colored, primipara, 24 years of age, and about whose condition he was uncertain, but he believed her to be the subject of extra-uterine pregnancy.

She thought herself at the end of gestation, and, for three days past, had suffered pains which were only quieted by twenty-five-drop doses of tincture of opium. She had evidently suffered much, the entire abdomen was unusually distended, markedly so in the upper zone; and was highly nervous with a pulse of 140 beats. Upon making a vaginal examination, I found a partial procidentia consisting of the cervix, which protruded beyond the labia to the extent of two and a half to three inches, at least one and a half inches in diameter, with an os sufficiently patulous to admit of the easy introduction of the index finger. Vaginal examination disclosed a continuous cervix of about the same diameter to the junction of the vagina and uterus. Deep rectal explorations revealed no more, though the tip of my finger recognized a rounding forwards of this body, which I took to be the fundus of the uterus. Abdominal palpation and auscultation determined the position of the fetus to be dorso-anterior and obliquely transverse from right hypochondrium to left lumbar. The head and shoulders were in the first-mentioned region; *placental souffle could not be detected anywhere*; abdominal distention was so great, the heart sounds so distinct (more so than I, in any case, can now recall) that I, too, was convinced that we had to deal with a case of extra-uterine fetation.

The sound was not used because I feared that muscular con-

<sup>1</sup> A paper presented to the council by a candidate elected to fellowship of the American Gynecological Society, at the thirteenth annual meeting in 1888.

tractions might be provoked in the abdominal walls, and the supposed sac thereby be ruptured.

The patient was seen and carefully examined the same afternoon by Drs. H. F. and A. S. Campbell in consultation. The next day, Sunday, Drs. Eugene Foster and A. H. Baker, together with my son Thomas D., were invited to be present.

After a most critical and careful examination, all the physicians agreed that it was an extra-uterine pregnancy, and from the history given by patient of herself, and the symptoms present, that she was at the full term of gestation.

The unanimous decision reached was that surgical interference was imperative, and that the sooner it was undertaken the better would be the prospects of both mother and child.

It was not until Wednesday morning that the consent of the patient and her friends could be obtained to the performance of the operation.

No preparatory treatment was instituted, because it was deemed important that the abdominal viscera should be kept in as quiescent a state as possible.

March 3d, patient's nervous perturbation has been very much quieted from the use of bromides and opiates.

At 3 P.M., assisted by the fore-named gentlemen and Dr. Jos. E. Allen, the patient was etherized, after having had administered to her hypodermically one-quarter grain of sulphate of morphia with one-ninety-sixth grain of sulphate of atropia.

I carefully dissected through the tissues in the linea alba below the umbilicus to the extent of about six inches, and upon a grooved director cautiously slit the peritoneum.

The tumor, when exposed, so much resembled the pregnant uterus that the incision was extended above the umbilicus. The increased space brought the appendages into view and at once demonstrated its true character.

To myself and all present this revelation was most unexpected, for my mind had not conceived the possibility of such a prolongation of uterine tissue from the epigastrium to three inches beyond the vaginal outlet.

The uterus having been lifted and drawn forwards, I quickly cut through its anterior wall and removed therefrom a vigorous female child of between seven and eight pounds weight. The hemorrhage, being no freer than in most ordinary cases of labor, was kept out of the abdominal cavity as much as possible by flannels wrung out of a hot disinfecting solution; the placenta was easily removed; the uterus firmly and promptly contracting, arrested all flow of blood. The abdominal cavity was cleansed of all blood and amniotic liquor. I was unwilling to trust to the continuance of muscular contraction, and, therefore, used deep and superficial carbolized catgut sutures. The peritoneum was closed with a continuous suture of fine carbolized catgut; the abdominal walls, by harelip pins, and superficial sutures of carbolized silk; four or five rubber adhesive strips were applied as an



additional support, a large compress of absorbent cotton was placed over the line of incision, and a broad flannel bandage completed the dressing.

One of the gentlemen present suggested that I should make a "Porro." To this I could not assent, with my views as to the pathology of this complication of pregnancy. In my opinion it is the result of the stimulation by the fertilized ovum, and, therefore, after the uterus has been emptied of its contents, the involution would reduce the cervix to its normal size, as is usual after ordinary labor. I think that the very great reduction in size which occurred during the one hundred and eight hours that my patient survived the operation fully sustains me in this opinion. To have performed a "Porro" would not only have unsexed the woman, but would have added materially to the risks of the operation, and have lessened her chances for recovery, *i. e.*, the unavoidable hemorrhage from such tissues.

Another puncture of morphine and atropia was now administered and the patient placed in a comfortable bed,<sup>1</sup> and directed to have one-quarter grain morphine and five grains quinine administered every four hours, the morphine to be repeated as often as necessary to quiet pains.

9:30 P.M. Patient has rested quietly, reaction complete: to be allowed nothing but cracked ice.

March 4th. Seen at 7 and 9 o'clock A.M. by the Drs. Foster. At 1 P.M. was visited by Drs. Campbell, W. H. Foster, and myself; has passed urine copiously, no marked tympanites or tenderness; temperature 101.6°, respiration 34, pulse 150; equal parts of barley water and milk in small quantities permitted.

March 5th. Patient visited by Dr. W. H. Foster, has had a comfortable night, sleeping almost continually, complains of slight pain in right lumbar region. Pulse 150, temperature 101.5°, respiration 36. Voided urine freely, takes with relish the barley water and milk, and craves solid food.

1 P.M. Condition about the same as this morning, with the exception of a slower pulse by five beats. One-quarter grain morphine taken at 9:30 last evening, and at 5 and 11 this morning.

3 P.M. Took three ounces beef-tea at 4, 8, and 9 o'clock. Complains more of pains in lumbar region, tenderness somewhat increased; temperature 102.4°, pulse 145 and of good volume, respiration 30, considerable borborygmi, rectal tube introduced and allowed to remain temporarily, gas freely escaping through it.

March 6th, 9 A.M. Retained rectal tube until 4 A.M., gas escaping more or less constantly through the night; pulse 140, temperature 101°, respiration 30. Craves solid food and wishes to know when she will be allowed to sit up. Tympanitic disten-

<sup>1</sup> Hands, instruments, and sponges were disinfected with solutions of corrosive sublimate 1-8,000, and carbolic acid 1-500.

tion much less, does not complain of pains, and bears well moderate pressure.

4 P.M. Has rested well since morning visit; temperature  $102.6^{\circ}$ , pulse 130, respiration 30. Has had a semi-solid movement with escape of a good deal of flatus; takes beef-tea, barley water and milk with relish; no thirst. Infant thrives upon one part of cow's milk to two of barley water sweetened with loaf sugar. This morning succeeded in getting a woman to come and nurse the child three times daily.

10:30 P.M. Three copious movements from bowels since four o'clock. Took one-quarter grain morphine at 12, 4, 7, and 10 o'clock, and doses to be continued hourly until sleep be induced.

March 7th. Six doses were necessary before sleep was induced. There has been no lochial discharge, but upon two or three occasions the napkin was slightly stained. Diarrhea checked. Temperature  $102^{\circ}$ , pulse 150, respiration 30. No increased tenderness, facial expression good, and patient reports that she does not suffer.

1 P.M. Evident change for the worse; temperature  $103.4^{\circ}$ , pulse 160, respiration 24. Allowed to have an occasional egg-nog added to the dietary. Skin acting freely; marked jactitation; intellect clear.

10 P.M. Has rapidly failed since visit at noon. Pulse 165, and almost imperceptible. Has not slept, though morphine has been repeated hourly. Nausea, with constant spitting of mouthfuls of watery fluid. Died at 2 A.M. on the 8th of *acute septicemia, having survived the operation one hundred and eight hours.*

*Sectio Cadaveris.*—With the greatest difficulty was consent to a partial and hurried autopsy obtained.

Because of a cut and several abrasions upon my hands, Dr. Eugene Foster, with the assistance of Drs. A. H. Baker and W. H. Foster, kindly made the examination for me.

Abdomen much distended, and absorbent cotton unstained, except with perhaps 3 i. blood at lower portion of wound.

When adhesive strips were removed, union of skin was apparently perfect.

Some show of pus around points of entrance and exit of pins. Edges of wound separated so easily after removal of pins and sutures that it is hardly probable that any material union had taken place.

No decided injection of vessels of either parietal or visceral peritoneum. Two moderate sized blood-clots were found lying upon the intestines, and cavity contained about a quart of bloody serum.

Lateral incisions in the abdominal walls were made to facilitate the removal of uterus and appendages. Uterus *lessened in size about one-half*, and incision ununited and gaping. The organ measured from fundus to os externum *twelve inches*. The incision in uterus had contracted to about three inches; this was

now extended to the internal os, and cervix carefully measured; this was found to measure *six and one-half inches*, and readily permitted of the passage through it of a No. 16 gum elastic English bougie.

Neither Madam Boivin, Hodge, Meigs, Ramsbotham, Tyler Smith, Churchill, Meadows, Playfair, nor Lusk mentions *hypertrophic elongation of the cervix* as a cause of dystocia.

I notice that in enumerating the obstacles to delivery presented by the uterus, Cazeaux, p. 625, alludes to the subject in the following few lines: "Induration with hypertrophy of the cervix uteri very often retards the dilatation, and sometimes even renders it impossible."

All gynecologists mention hypertrophy and elongation of the cervix, but Schroeder, Barnes, and Goodell treat the subject more exhaustively than any authors with whose writings I am familiar. In the London edition of 1873 of his "Diseases of Women," Barnes graphically portrays, upon p. 633 and in Fig. 115, this supra-vaginal hypertrophic elongation.

As regards the etiology of this disease, I quote Schroeder, p. 76: "The causes of general peniform hypertrophy of the infra-vaginal portion are entirely unknown. Parturition cannot be especially blamed for it, because the most typical cases have occurred in nulliparæ." On p. 81: "Although in certain individual instances this supra-vaginal hypertrophy arises from unknown causes similar to those underlying infra-vaginal enlargement, still, in a large number of cases, this condition must be regarded as a consequence of a primary prolapse of the vagina, an etiological fact already pointed out by Cruveilhier, and recently alluded to by Spiegelberg. It will be readily understood that the prolapsing vagina exerts general omnilateral traction of the cervix. . . . Should the uterus, however, be retained in its position by normal or pathological supports,<sup>1</sup> and thus be unable to follow the traction of the vagina, a drawing out of the cervix in a downward direction easily occurs, usually not merely a simple elongation with attenuation, but through the irritation, an *increase in bulk of the whole cervix*." On page 87, we find: "The median portion of the cervix is the chief seat of the hypertrophy; the symptoms will differ from those already described, because this part is supra-vaginal at the

<sup>1</sup> *I. e.*, by the physiological development of the body in my case, and by the large fibroid, a diagram of which will be found in Fig. 41, p. 91.

anterior and infra-vaginal at the posterior lip. These cases are more common in my experience than the two other varieties, although, with the exception of a case by Graily Hewitt (represented in diagram, but not described in text), I do not find this form of cervical hypertrophy mentioned in the literature of the subject."

Goodell in "Lessons in Gynecology," page 153, gives us the fourth theory of its causation, that advocated by I. E. Taylor; "that contrary to the commonly accepted belief, the glandular portion of the cervix during gestation is not effaced, but hypertrophied, and that even after labor it still exists; for it has undergone nothing more than a momentary expansion of its canal for the passage of the fetus; that, consequently, if the natural process of involution does not take place, the gravity of this hypertrophied cervix will aid and sustain the elongation of the non-glandular part of the supra-vaginal cervix, viz, the isthmus which is thick, soft, and ductile in the non-involuted womb." Further on, page 155, "Granting then these premises, I think we are logically forced to admit in the non-involuted uterus, not only the ductility of its isthmus and corpus, but also the gravity of its hypertrophied cervix. I shall, therefore, invite you to accept Dr. Taylor's theory; not, however, as one covering the whole causation of this affection, but as one throwing additional light upon it." On page 156: "Thus, when adherent to the wall of a growing cyst, it has been found stretched out to a length of six or more inches. I have seen the same thing happen to a *womb firmly bound to a cyst of ventral fetation*."<sup>1</sup>

We must now consider the question of *diagnosis*. Confessedly difficult in the early months, some cases of abdominal pregnancy at full term cannot be definitely diagnosticated until post-mortem section reveals the truth. Vide Transactions of the American Gynecological Society for 1879, page 322. In the discussion of Dr. J. C. Reeves' case of extra-uterine pregnancy, Dr. Mundé, of New York, remarked: "My experience in extra-uterine pregnancy extends to only three cases. I saw my first case in Wurzburg in 1869, whilst I was with Prof. Scanzoni, and I refer to it to show that *he, with his great expe-*

<sup>1</sup> This same upward and downward traction was exerted in my case by the developing body and fundus above, antagonized by the infra-vaginal hypertrophied cervix.

*dience, was not able to make a diagnosis of the extra-uterine pregnancy until a post-mortem was reached. The child was full grown* (italics mine). I believe, however, with Dr. White that it is not possible to make a positive diagnosis except when we hear the fetal heart. Perhaps I should not say impossible, for I think it may be possible but to say the least, diagnosis without these signs is questionable."

In the AMERICAN JOURNAL OF OBSTETRICS for 1879, page 31, Prof. Byford has an interesting and instructive paper upon "A Case of Double Operation of Ovariectomy and Hysterotomy," in which are forcibly illustrated, not only the difficulties of differential diagnosis in this class of cases, but also the mistakes of eminent and skilful specialists. I quote as follows: "Preparations were at once perfected; the patient etherized, placed upon the table, and an incision about three inches long in the linea alba exposed the sac. After assuring myself that there were no adhesions on the anterior surface, I introduced Spencer Wells' trocar, and drew off about twelve quarts of amber-colored fluid. The fluid was thin but somewhat viscid, presenting the appearance I had often witnessed in ovarian tumors. When the sac was nearly emptied, I noticed a tumor behind it, adhering to the sac and preventing it from passing out through the incision. The second tumor was elastic, and so perfectly resembled a secondary cyst that I had no hesitation in plunging in a trocar through its walls, with a view still further to lessen the bulk of the entire mass by evacuating its contents. As the trocar met with unusual resistance, and nothing but blood passed through it, I became convinced that there was something unusual about it. The incision was somewhat enlarged, and as much of the emptied sac drawn out as would pass, when it was discovered that slight adhesions, and not continuity of tissue, connected the two. After the cyst was entirely withdrawn, I was astonished to find that the second tumor was the impregnated uterus, and still worse, that it was wounded and bleeding. This revelation was accepted with many doubts by the physicians present, who were friends and neighbors of the patient, and believed it impossible that she should be pregnant. The facts, however, were so patent as to overcome their incredulity. At that moment I did not call to mind an almost precisely similar instance that had occurred to Mr. Wells, and could not recall a precedent for my guidance.

The wound in the uterus had been very much enlarged by the contraction of the transverse, oblique, and longitudinal fibres of that organ, until, in the few moments that had elapsed since the puncture, it had become as large as a silver dollar. It seemed to me, in the short time I had for reflection, that the only way out of the difficulty was to evacuate the uterus. This was done by making an incision about four inches long from near the fundus downwards, so as to include the accidental aperture. The incision exposed the placenta at about the middle of its attachment. This organ was easily and rapidly separated by passing the index-finger between it and the uterine walls, and completely removed. After this was done, the right side of the fetus, the arm, hip, and feet were perfectly exposed. The breech was seized and drawn towards the opening, when the fetus was expelled by uterine contraction. The membranes and liquor amnii were next removed, when the uterus was perfectly devoid of all its former contents. . . . Under ordinary circumstances, the diagnosis of this complication is not very difficult, as the uterus lies anterior to or on one side of the tumor, so that its presence and contents are easily ascertained, but exceptional cases are sometimes found when the difficulties are sufficient to mislead an experienced and accomplished observer.

“Mr. Wells acknowledges mistakes in his own practice, and mentions the fact that Dr. J. Marion Sims fell into an error of diagnosis and did not discover the complication until the gravid uterus was exposed, during the operation for the extirpation of the ovarian tumor. A considerable number of other cases might be cited in which mistakes of this kind have occurred. . . . Mr. Wells publishes a case, alluded to above, in his well-known ‘Diseases of the Ovaries,’ almost exactly like the one I have recorded. . . . He (Mr. Wells) had entirely overlooked the existence of pregnancy with ovarian disease, and after removing an adherent multilocular cyst of the left ovary, he felt what he thought to be a cyst of the right ovary, tapped it, and then found that it was the gravid uterus. From this puncture two or three pints of bloody fluid escaped through the canula, when the tumor became much less tense; and he says, on raising the tumor up, he saw the Fallopian tube passing from its upper part, and thus he knew at once he had punctured the uterus.” . . . Dr. Byford acknowledges his indebted-



ness to Dr. Mundé for the histories of the four other cases. On p. 38, he says: "Mr. Wells says with reference to the question, 'What should be done when a pregnant uterus is discovered during some stage of ovariectomy? Let it alone.' But supposing the operator has penetrated the uterus or wounded it? If any conclusion can be drawn from the case in which I made this mistake and emptied the uterus, and two other cases in which the same mistake was made by other surgeons who did not empty the uterus, but closed the puncture in its walls by wire sutures and both patients died after aborting, while mine recovered, it would seem to be the safer practice to empty the uterus."

Dr. Robert P. Harris, of Philadelphia, kindly refers me to the case of Dr. Evory Kennedy (*Dublin Journal Medical Science*, Vol. XIV., 1839, p. 319) who found his patient the exact counterpart of what I, before abdominal section, conceived to be the condition of affairs in my patient, viz., an hypertrophied elongated uterus forced down, and partially without the vulva, by the superincumbent gestation sac. He also calls my attention to the cases mentioned by Barnes in his "Obstetric Medicine and Surgery."

In the *Medical Record* for January 31st, 1880, in a lecture upon the subject Dr. Goodell stated: "Some years ago a distinguished physician was attending a lady in West Philadelphia for what he supposed to be an attack of pelvic cellulitis. . . . I was called in consultation. I diagnosed the case to be one of pelvic peritonitis. Two months more passed by, when the late Dr. Parry, who had also been called in, came to me and said jokingly, 'Doctor, you have made a bad blunder, the trouble is merely normal pregnancy.' Nevertheless I knew that there was something abnormal in the case. I again visited the patient, and I had barely begun my examination when suddenly it flashed upon me, what I have here is a case of extra-uterine fetation. . . . Here was an instance where three separate physicians were each and all of them deceived."

Dr. G. decided it to be a case of extra-uterine fetation, and determined to use Paquelin's thermo-cantère. Fortunately the operation was deferred, and the woman was delivered per vias naturales of a small living child. This case proved to be uterus bicornis with pregnancy of one horn.

Dr. Garrigues, in the *Gynecological Transactions* for 1882,

p. 206, in his paper on "Electricity in Extra-uterine Pregnancy," writes as to diagnosis: "I am far from underrating the difficulties surrounding the diagnosis of extra-uterine pregnancy; there can be no better proof in this respect than the hesitation or mistakes of some of the most experienced gynecologists of all countries in their dealings with this sad condition."

Dr. Thomas, in his twenty-one cases of extra-uterine pregnancy in the *Gynecological Transactions* for 1882, p. 226, says: "In spite of this gratifying advance, however, our knowledge of the subject is even now elementary, our means of diagnosis still uncertain, and our methods of treatment unsettled." In the same *Transactions* for the year 1881, in Dr. Brown's paper upon intra- and extra-uterine pregnancy, the following paragraph occurs: "On examination per vaginam, the canal was found much elongated, its rugæ obliterated with the exception of an irregular annular fold of the membrane in the ordinary situation of the vaginal cul-de-sac, and the os uteri drawn up so far as to be entirely out of reach." Dr. Brown also quotes the case of Dr. E. Paul Sale, which bears a strong resemblance to my own, in that laparotomy and Cesarean section were done, living children removed, the mother dying ninety-three hours afterwards of "supposed septicemia."

In Dr. J. Marion Sims' "Uterine Surgery," p. 200, I find the following language as to the dependence of sterility upon elongation of the cervix: "But, independently of its mere form, if the cervix projects into the vagina a full half-inch, it is very likely to be associated with the sterile state; if an inch, the case is almost necessarily sterile; if it should be still more elongated, say one and a half or two inches, it becomes absolutely so; and if it does not project into the vagina at all, it is equally sterile."

Dr. Robt. Barnes, "Diseases of Women," p. 437, in treating of the diagnosis of abdominal gestation from ovarian tumor and normal gestation: "The recognition of freely fluctuating ovarian tumors is easy; but I have several times experienced great difficulty when the tumor was, in great part, solid. Ovarian tumors are occasionally irregular in shape, and present hard projections, which, if the mind is occupied with the idea of pregnancy, are readily mistaken for the fetal limbs. *After the utmost pains have been expended, in order to arrive at a conclusion, an exploratory incision may offer the only satisfactory*

*information as to the diagnosis of one form of extra-uterine gestation from another (italics mine).*

"Scazoni declares that this is impossible during life. This must be taken with some qualification. The abdominal form, at least, may commonly be distinguished from the tubal by its greater development, by its longer history, and by its terminations. The abdomen is generally less tense than in normal gestation, it is expanded transversely; the umbilicus is often strongly drawn in. The fetal movements may be felt very distinctly, and are often more violent than in ordinary gestation. *The placental souffle is very rarely heard.* The os uteri may feel like that of the pregnant uterus, the cervix being open. . . . *In almost all these cases, the uterus is elongated*" (italics mine).

I have deferred until the last quotations from Mr. Lawson Tait ("Diseases of Women," Wood's library), and Prof. A. R. Simpson, of Edinburgh, because they, of all authorities consulted, mention, as a complication of pregnancy, hypertrophic elongation.

They refer to the only cases *at all parallel to my own*; but Mr. Tait's case was incomplete in that it was still under observation at the time his book was written. Vide p. 57: "I have now under my care, in association with my friend, Mr. H. Langley Browne, of West Bromwich, a very pronounced case of this malformation where pregnancy has followed dilatation without amputation, and *the condition is now very remarkable.* The cervix feels like a protruded uterus, with which the sudden swelling of the pregnant fundus appears to have no connection until very careful examination is made." On p. 110 he says: "But suppose the child is still undeveloped in a sac of some kind, and alive, how can we determine that it is not in the uterus? I confess that, short of introducing the sound or the finger into the cavity, I know of no means of certain diagnosis."<sup>1</sup> "In fact, unless this patient had been under my care previous to her becoming pregnant, the diagnosis would have been very difficult. *In one case of this hypertrophic elongation of the cervix, I had to amputate nearly two inches in order to reach the polypus. The elongated cervix would not dilate by sponge sufficiently to allow me to manipulate*" (italics mine).

<sup>1</sup> After most careful, painstaking examination, such a connection could not be made out in my case.

On p. 112, Mr. T., in discussing the diagnosis of extra-uterine pregnancy, says: "*The most important point is that the cervix is always quite open, in my cases almost admitting the finger. Under such circumstances, if a fetal heart is audible, the case is clear*" (italics mine).

I am greatly indebted to Dr. Eugene Foster, not only for valuable assistance in the investigation of the literature of this subject, but for his kindly obtaining for me the loan from the Surgeon-General's office, U. S. Army, of the Edinburgh Obstetrical Society's Trans. for 1882 and 1883. In this volume is contained Prof. A. R. Simpson's paper, "Basilysis for Dystocia from Hypertrophic Elongation of the Cervix Uteri." This patient was seen by Prof. Simpson two hours after her admission into the hospital and some twelve hours after the commencement of labor. Page 34, par. 2: "On inspection, a tumor was noticed projecting two inches from the vulva, with a transverse division in the centre; its consistence was very hard, and it was of a red color, except in some places where it was ulcerated and covered by a gray pellicle, showing that the erosion had existed for some time, and from these there was a discharge of sanguineous, purulent matter. The vulva was distended by the tumor, the parts around being white and indurated. *The os just admitted two fingers, and at a full finger's length from the os the vertex of the child was felt presenting with the membranes unruptured*; the occiput was directed to the right and a little posterior to the right extremity of the transverse diameter (italics mine). The bones of the head felt lax."

The cervix was pushed back into the vagina and the anterior lip supported during the pains. Its tissue became somewhat softer, and the os dilated to about two inches in diameter and the lips would be about half an inch thick. During this time, the upper portion of the cervix and lower part of the uterus were becoming thinned out and in danger of rupture. On Prof. Simpson again returning, the membranes were ruptured and meconium stained liquor escaped, after which the parts were thoroughly douché with carbolyzed water. It being very clear that the child was dead, he determined to basilyze it so as to facilitate the delivery. The patient was anesthetized and placed in the lithotomy position, in the presence of Dr. Guido Jochnner, Jr., of Munich, Dr. Anderson, of University College, London, and several of the maternity students. The house

surgeon kept the uterus fixed by pressure above the pubes. The vault having been perforated on the side next the anterior wall of the cervix, the point of the basilyst was guided to the anterior part of the base, in front of the sella tureica, and screwed in to the shoulder. When the blades had been separated, it was felt that the structures were broken up. To effect more minute comminution, the instrument was again applied just behind the sella tureica, and on its withdrawal the base of the skull felt relaxed. No blood escaped during the proceeding, showing that the child was dead, and the maternal structures were not injured. Some brain matter escaped during the operation, and the rest was evacuated by douching. Traction on the head was made by the fingers, support and counter pressure being applied to the lips of the cervix during its extraction. The head was delivered easily, but difficulty was experienced with the shoulders, the circle of the os fissuring in different directions, especially at the left side, where the parts were somewhat thin. The distention by the shoulders also wounding the left nympha and adjacent portion of the vestibule anteriorly and right posteriorly. . . . In his remarks upon this case, Dr. Simpson gives the history of a case by Benicke, in which, as in his own, the presenting head was within reach of the finger. In this instance, bilateral incision nearly two inches (5 cm.) were made and delivery with forceps effected. He also mentions another by Benicke, very similar to the one narrated by himself, also the case of Dr. Shelton, read before the New York Academy of Medicine by Dr. A. K. Gardner, April, 1862.

I shall now take up the question of treatment, and endeavor to close with as few words and quotations as will suffice to indicate the proper course to be adopted; as to that of the early months, there is a general consensus of opinion as to the propriety of destroying the embryo; and of all the means employed, electricity has, of late years, given, beyond all question, the best results.

In the discussion of Dr. Reeve's case (Trans. Gynecological Society, 1879, p. 329), the clarion notes of Dr. T. G. Thomas trumpet forth no uncertain sound: "In abdominal cases, however, when the fact is fully recognized, when there is a non-pregnant uterus, and a living child in the abdominal cavity, the practitioner knowing that if that child is left there it will

surely die, he who refuses to *cut open the abdomen and remove it should be tried before a court of justice* (italics mine). It is the bounden duty of the surgeon to remove the child under such circumstances."

The above remarks, though predicated upon abdominal gestation, apply, in my opinion, with equal force to a uterus at full term with *exaggerated hypertrophic elongation of the cervix*, as in my case.

Among the cases cited by Dr. B. B. Browne is that of Dr. H. P. C. Wilson, who states that at the autopsy ninety hours after operation: "The uterus was reduced to about one-half the size it was at the time of the operation." In so far as memory's comparison could determine, this was certainly so in my case, in which the autopsy was held one hundred and nineteen hours after operation. What must have been its dimensions previous to the operation? At autopsy they were, from fundus to os, twelve inches; hypertrophic elongation of cervix, *i. e.*, from internal to external os, *six and one-half inches*.

Mr. Tait is emphatic in his advocacy of the primary operation, for on p. 113 he says: "After the diagnosis of a case of extra-uterine pregnancy has been satisfactorily determined, the question arises, What is to be done with it? If the child is still alive and near the full term, I believe it our duty to operate."

Dr. Barnes, whilst coinciding with Mr. Hutchinson as to the propriety of a Fabian policy, asks the following pertinent question: "Are the dangers of the primary operation greater than those of the secondary operation, plus the dangers immediately and soon following the neglect to perform the primary operation?" And adds, p. 442: "Very eminent men have advised the primary operation. Thus Levret, Gardien, Velpeau, and Kiwisch urged it . . . Koeberlé . . . pronounces himself decidedly in favor of the proceeding. Dr. Keller . . . after carefully weighing the arguments for and against, decides in favor."

After patient, laborious research of all obtainable pertinent literature, I reiterate a part of my opening: "My case stands alone in medical literature."

The cases reported by Dr. Simpson more closely resemble my own; but they even fall short of it in the degree of hyper-



trophic elongation. In two of the cases the index finger could reach and differentiate the presenting part of the child.

Now with a cervix protruding two and one-half to three inches beyond the labia, I passed my index finger, three and one half inches long, its full length, over the post-vaginal wall before I reached the utero-vaginal junction, and this without apparently diminishing the length of the protruded part. Several authors consulted say that in this form of hypertrophic elongation, the supra- far exceeds in length the infra-vaginal cervix. This fact is demonstrated by Barnes, "Diseases of Women," Fig. 115, p. 633, and verified by myself at the autopsy one hundred and nineteen hours after the operation. The supra- was about double the infra-vaginal portion.

Granting this estimate, to my mind the dilatation sufficient for the passage of a full-term child through a cervix of at least nine inches was a physical impossibility, because, first, of the great length of the hypertrophied cervix, and, secondly, because of the inexpandibility of the connective tissue, of which almost the entire structure consists in this class of cases. This fact is demonstrated in one of Mr. Tait's cases of elongated cervix, where, to remove a uterine polypus, after failing to dilate with sponge tents, he was obliged first to amputate two inches of the elongated cervix.

---

#### CASES OF FACE PRESENTATION.<sup>1</sup>

BY

DR. H. M. MACKAY.

Woodstock, Ont.

---

With so much that is new to detail in medicine, it might seem like temerity to presume on the attention of the association for an old-fashioned subject like "face presentation." It is, however, one that is entitled to more consideration than it usually receives. Even writers on obstetrics are, as a rule, in the habit of passing over it rather cursorily. For although comparatively rare, and hence not unfrequently finding the accoucheur off his

<sup>1</sup> Written for Canada Medical Assoc., and read by title.

guard, it is often of so grave a character as to involve, not only severe and prolonged suffering, but also most serious consequences to mother and child.

During a medical practice of over twenty years, I met with only eleven cases of "face presentation," and on reviewing my notes of them, I find that the treatment pursued was on the whole somewhat different from that usually recommended. It occurred to me that perhaps a brief synopsis of the cases and their management might not be unacceptable to the members of this association.

The following remarks are copied with little alteration from my record of obstetric cases, and, I venture the hope, are sufficiently condensed to avoid wearying with unnecessary repetition.

CASE I.—Mrs. A., primipara; found face presenting, membranes ruptured and os dilated. It was early in my practice and the first case of the kind I ever met. The idea flashed through my mind: What! "face presentation" with chin to sacrum. I somewhere got the impression that the child could not be born (in that position). However, while trying to collect my thoughts as to the probabilities and what best to do, labor went on and in a few minutes the child was born, none the worse except a swollen face which soon came all right. Fortunately for all concerned, the child was small, and the pelvis comparatively large.

This case had a salutary effect upon my mind, as it enabled me to a certain degree to break loose from the shackles in which we are sometimes in danger of being held by opinions handed down to us, or received from those supposed to be infallible.

CASE II.—Mrs. J., second labor, saw er hearly in the morning, found membranes ruptured and os but slightly dilated. I diagnosed head presentation. Did not see patient again until the evening, when I found os well dilated, but could not make out the nature of the presentation. I asked for consultation, and Dr. Scott, one of our oldest and most experienced practitioners, was called in. He also failed in diagnosing the case. As patient was in good condition and pelvis fairly large, we decided to await further developments. It proved to be a "face" and child was born after three hours' severe suffering to the mother, and a much swollen and disfigured face to the child. Mother and child did well.

CASE III.—Mrs. C., seventeenth labor. My notes of this case are few. Found face presenting, chin to sacrum. I pushed back the head, brought down the vertex; all terminated well.

CASE IV.—Mrs. F., third labor. When first seen, found os dilated, membranes intact, and head presenting. I ruptured the

membranes. On examining, after a couple of pains, was disappointed to find the brow and bridge of nose presenting. I decided to wait, watch, and trust to nature. All seemed to be going on favorably, and chin turning to pubes; but patient becoming weary and fretful, and showing symptoms of exhaustion, I pushed back the head and brought down the occiput, assisting with the free hand externally. Labor soon terminated favorably to mother and child.

CASE V.—Mrs. M., fourth labor. Found head presenting, and, as I supposed, everything promising a nearly and a favorable termination, I unguardedly told the patient so. After waiting full dilatation of the os, I ruptured the membranes, and, examining again, was surprised and mortified by the advent of a nose and pair of eyes. I at once pushed back the head, and brought down the occiput, but the head would not accommodate itself to the new position, and the child was born crown first. The labor terminated satisfactorily. The child, in this instance, had suffered some injury to the brain and had a seizure of opisthotonos, from which, however, it soon recovered, and is to-day nine years old and quite healthy.

I will not give particulars in Cases VI., VIII., and IX., as they were, generally speaking, like those already quoted, with the exception of earlier recognition of the faulty position, and hence more easy correction, each terminating favorably to mother and child.

CASE X.—Found membranes ruptured, face presenting, chin to pubes. As head seemed to be relatively small, did not interfere, and labor was soon terminated; all well.

CASE XI.—On arriving, found membranes ruptured, os dilated, brow and bridge of nose presenting. As patient was above the average size, and pelvis comparatively large, I decided to wait awhile and not interfere. After about one hour, made another examination, and finding that, although the pains were regular and strongly expulsive, there was almost no progress, I gradually raised the head between pains, and brought down the vertex. It required several pains to get the head engaged in the new position; finally it did so, and labor was soon terminated. Mother and child doing well.

Reverting to Case VII. In this case I was the third consultant called in. During the day, several futile attempts to deliver with forceps had been made. Found patient very much exhausted, child dead, face presenting, chin to sacrum. Hesitating between the alternatives of craniotomy and turning, we decided upon the latter, thinking it would be more expeditious and do less violence to parts already much bruised. Delivery

was accomplished without much difficulty. Patient rallied, but died on the third day from exhaustion.

The above cases were copied, as I before stated, with little alteration, from my note book, and the too frequent errors in diagnosis candidly admitted. I may, however, claim as a fairly reasonable excuse that some of the most distinguished obstetricians have occasionally erred in the same way. Prof. Meigs gives a case in which he felt sutures, and, after an interval, ruptured the membranes, and still supposed he had a vertex presentation, and which turned out to be face. In this case he bled and used instruments. Not long after, he repeated a similar error in diagnosis.

Many more instances of the same nature might be quoted were it necessary to do so. The cases above briefly detailed indicate what my own views are as to the best treatment of that class of cases. I know that opinions are divided among some of our authorities on this point, and it would be presumption to be too sure from an experience of eleven cases. Until within recent years, writers were inclined to regard face as a natural presentation, and favored non-interference until urgent symptoms had developed.

Dr. Barnes, in his latest work, says, page 521: "A considerable number terminate happily for mother and child under spontaneous labor; but this labor is commonly tedious and protracted, and not seldom calls for artificial aid, and brings the child and mother into danger." Again, on page 527, he writes to the effect that only early interference is practicable, and early interference is a presumption of ignorance, and affords nature no opportunity to try what she can do. In other words, give nature a trial anyway, and when she fails it is too late to interfere.

Meigs writes: "When presenting part is above the brim, it is all but impossible to know or adjust; and after face can be ascertained to exist, it is too late to return it and bring down the vertex; and I regard it as a rash if not impossible operation." Prof. Dewees, who inclines to favor correcting faulty positions, writes: "Should head descend through or nearly through the superior strait, must turn or use vectis." More recent writers are divided on the comparative merits of trusting Nature, turning, forceps, and correcting artificially. It is pretty generally

conceded that it is advisable to convert into a vertex if the case be diagnosed early or immediately after the membranes are ruptured. Dr. Long, of Buffalo, in an article in AM. JOUR. OF OBST., gives a valuable table of statistics showing the advantages of artificial correction over other modes, and, in closing, urges the importance of early diagnosis when correction is possible and will remove entirely the difficulties of the presentation *per se*; but he is of opinion that, when the labor has progressed until the head has been forced into the pelvis and fixed with its unnatural presentation, craniotomy must claim a good share of them. I venture the opinion that even then it is possible, between pains, to gently raise the uterus and its contents out of the pelvis into the space it so recently occupied, roll the head as one would a ball on the tips of the fingers, and convert into a vertex, as the best choice in a case of extreme peril.

Nor is this view at all modified by the question of the probable cause of the faulty position. In the large majority of cases it must be the accident of the child having made extension of the neck at an unlucky moment, and got brow caught on the brim of the pelvis. This is not to be wondered at when we think of the many tumbles the child must take *in utero*, judging from the twisted state of the cord. That the malposition was not due, in any of my cases, to pelvic deformity is clear from the fact that all had previously gone through labor without any complication.

For many years I had an instinctive shrinking from what is involved in the general recommendation "to wait until urgent symptoms have developed." And I am convinced that it is an unwise practice in face presentations to wait when interference is indicated until urgent symptoms have developed. If the interference is sometimes successful after the urgent symptoms have developed, how much better to mother and child the chances would have been before those symptoms, with their associated complications, have supervened.

I believe that success in midwifery is largely dependent upon the readiness with which the accoucheur takes in the situation, and on his ability to balance well and determine between the chances and probabilities in each case. No hard and fast rule can possibly be laid down; each case must be treated upon its merits; each has its own group of factors; every one of which has an influence in determining the result. In face presentations,

I know of no combination of circumstances, except, as in my first and tenth cases, where head is small and pelvis relatively large, in which, in the interest of mother and child, the chances are not in favor of restoring the presentation so soon as detected. There is less danger of mischief from a few minutes' careful operating in the pelvis with a well lubricated and disinfected hand than from, perhaps, hours of severe exertion and the pressure requisite to force the child, with a kink in it, through the maternal passages. I do not believe that there is any instrument that can be used with as much safety and efficiency in those cases as the educated human hand.

I am aware that external palpation is the more recent method of diagnosing and correcting faulty presentations and positions of the child in the parturient. I have tried that method frequently, following directions as well as I could, but have not so far been very successful in arriving at definite information with sufficient certainty to act upon it. I have little doubt but it is the preferable way in the hands of those whose sense of touch is sufficiently educated in that respect. I think, however, that a word of caution is here indicated: "treat gently." I have known the abdomen to be handled as roughly as if it could stand any amount of violence in the way of punching, pressing, and forcing when applied externally. I think much torture and subsequent mischief may be inflicted in this way.

---

## CORRESPONDENCE.

---

### SOME OF THE DIFFICULTIES OF DIFFERENTIATING FUNCTIONAL FROM ORGANIC DISEASES OF THE HEART DURING PREGNANCY.

---

TO THE EDITOR OF THE JOURNAL OF OBSTETRICS.

---

HAVING read with great interest in Volume XXI. of your JOURNAL an article entitled "Observations on Child-bearing Complicated by Organic Disease of the Heart," by Dr. Henry D. Fry, and having also, during my sojourn at the Female Hospital as assistant physician, come in contact with several cardiac complications during pregnancy and labor, it affords me pleasure



to communicate my observations to those interested in this important subject. I agree fully with the doctor's statement in regard to the limited knowledge furnished us in the treatment of cardiac disturbance occurring during gestation, and was very much surprised in my researches on the subject to find a question of so serious a nature touched upon with so marked a degree of insignificance. Even Cazeaux and Tarnier, in their most excellent treatise on the "Diseases Complicating Pregnancy," give us but an insight into the subject. Likewise do Lusk, Bedford, and Playfair. "Restrain the voluntary efforts of the patient;" "Treat the disease (before labor has set in) on general principles;" "Terminate labor, if the life of the patient is endangered, by the timely use of forceps." These are the directions briefly given us by these most illustrious writers.

I wish to call attention to the difficulty, especially during the later months, of differentiating organic disease from functional heart disturbance. As we know, there is always physiological hypertrophy of the left ventricle; this hypertrophy is causative at times of a loud and distinct murmur, in all respects identical with an organic murmur, and extremely difficult to diagnose. This is rendered all the more so when taken in connection with edema, cough, pulmonary congestion, and dyspnea on the slightest exertion; and yet all of these may be present, and but a short time after delivery examination of the precordial region will show entire absence of the murmur, and a further examination will disclose the complete disappearance of all the symptoms which originally pointed to a grave cardiac lesion, the existence of which created anxiety in the mind of the physician and terror in the heart of his patient. I will cite two cases illustrative of what I wish to convey.

CASE I.—Annie M., multipara, æt. 26, had given birth to two children. During these pregnancies—towards the beginning of the eighth month—was attacked with paroxysms of dyspnea, palpitation, cerebral congestion, and cough. In each case labor ended satisfactorily, though terminated the second time with forceps. She gave no history of rheumatism, renal complication, or syphilis. Examination of the urine failed to find the presence of albumin. During her third pregnancy, she presented herself with a well-marked mitral murmur. Shortly after her assignment to the ward, she was attacked with a severe dyspnea, accompanied with the most distressing oppression over heart, countenance became markedly cyanotic, conjunctivæ injected, pulse weak and rapid, great nervous disturbance. Treatment by potassium bromide and tincture digitalis *ter die*, emplastr. belladonnæ over precordia, under which, and a good cathartic of

sulph. magnesia, she emerged from the attack. These paroxysms were repeated once and twice weekly for two months, during which time she would be compelled to maintain the erect posture in bed. The treatment was continued. Several of the physicians of hospital saw this patient with me during her attacks and examined her, all concurring in the diagnosis; we anticipated some trouble when labor was reached, and were ready to remove the child in case death claimed the patient. Was called one morning at nine o'clock, labor had set in, bag of water already ruptured, os dilated to size of a quarter, progressing favorably, pains regular, pulse and respiration good. Two hours passed and no change in condition of things, os rigid and thick; gave two vaginal injections of hot water and thirty grains bromide potassium internally. One hour later the os was nicely dilated, and a small girl made her appearance, crying vigorously. Mother made a quick recovery, the murmur entirely disappeared, and though she was under my observation for at least a month afterwards I failed to detect the slightest bruit after the second week. Child also did well and both patients left the hospital in good condition.

CASE II.—This patient, Mary M., age 21, primip., claimed that about a year ago she experienced an attack of rheumatism which was severe, she being unable to move for a week, otherwise has always been healthy. Did not show any calcareous deposits in fingers or other joints. Lungs, kidneys, and other important organs normal; directing my attention to the heart, however, disclosed a loud bruit over the apex, and with the first sound. Patient had had attacks of dizziness, and stated that since her rheumatic spell she had experienced palpitation when ascending the stairs or exerting herself beyond her accustomed habits. Pulse and respiration did not seem affected. My diagnosis was tentative at the time of first examination. Several days after taking her clinical history, was called to see patient who showed all the signs of pulmonary congestion; the heart bruit was beautifully illustrated, and patient was in great distress, retching and vomiting, and complaining of difficulty of breathing. Treatment by compound spirits ether, bromide potassium, and digitalis and bismuth subnitrate. Patient recovered from this and a subsequent milder attack. She passed through her labor successfully, and to my surprise, on making an examination three weeks later, I found the murmur absent, and the heart normal in every respect.

In case first, you will observe during each period of gestation the appearance of the same symptoms, and their prompt subsidence with the termination of labor; whereas, in case second is illustrated an additional difficulty in separating a merely functional disturbance from an organic disease. The fact that the patient had experienced an attack of rheumatism, together with the locality, intensity, and character of the murmur, the pul-

monary congestion, palpitation, and dyspnea, naturally led to the inference that there existed a grave lesion of the heart. I have heard of the patient since, who is in good health. A functional derangement of the heart is generally readily recognizable in the unimpregnated, but in arriving at our diagnosis in a pregnant patient, we must consider all those changes dependent upon gestation—those changes in the vascular, nervous, urinary, pulmonary, and tegumentary systems—changes that are transient as well as reflex. In conclusion I would caution my readers to be careful in making too frequent examinations of the heart, as they will fix the mind of the patient on herself, and during her labor, when that tranquillity of mind which is such an adjuvant to the accoucheur is wanting (and how can a patient be tranquil when informed of the liability of her death taking place suddenly during her pains), the obstetrician will have himself to blame.

To me the subject handled so ably by Dr. Fry was strikingly interesting, and, I am sure, is so likewise to my professional brethren of St. Louis. Would some of the distinguished obstetricians of the day describe more fully this subject to us in all its detail of diagnosis, prognosis and treatment, it would not only help us greatly, but be of the utmost value to our patients.

C. H. POWELL, A.M., M.D.,

*Late Assistant Physician Female Hospital, St. Louis, Mo.*

LAY AND EASTON AVENUES, ST. LOUIS, MO.,

September 22d, 1888.

---

## CROUP.

---

TO THE EDITOR OF THE JOURNAL OF OBSTETRICS.

---

THE paper on "Croup," by Dr. John T. Winter, of Washington, D. C., which appeared in the September number of your JOURNAL, is at such variance with what I had supposed to be the recognized teachings, and differs so widely from my own opinions, that I cannot refrain from offering a word of protest against the sweeping assertions with which the paper is filled. The question of the unity or duality of membranous croup and diphtheritic croup is still *sub judice*, and many facts can be produced in the support of either side. The writer of the paper referred to accepts without qualification the ultima-

tum laid down by Dr. Gay, that if the membrane "begins in the fauces," it is diphtheritic croup, but if it "begins in the larynx," it is just as surely membranous or primary croup. In other words, where the germ of diphtheria lodges in the fauces, and the membrane extends downwards and invades the larynx, we have diphtheritic croup, a disease "both contagious and infectious before and after death." But if the germ runs the gauntlet of the fauces, and fastens itself in the larynx, it there gives rise to membranous croup, a disease "neither contagious nor infectious." The fact that, when the membrane is situated on the tonsils or in the nasal cavity, there is more glandular involvement seems to me capable of explanation from some other hypothesis than the duality of diphtheria and croup. The lymphatics are more readily accessible from the tonsils and the nasal mucous membrane than from the larynx. If diphtheria can manifest itself first by a false membrane on the conjunctiva or in the vagina, why cannot the first manifestation be in the larynx?

But what I find to criticise more especially in Dr. Winter's paper is the identity which he attempts to establish—or rather asserts as existing—between simple spasmodic croup and membranous croup. He might just as logically assert that when a child catches cold, and slight inflammation in the fauces is established, the little victim has diphtheria, which differs only in degree from the most malignant form of this truly terrible disease. Then we could understand how some physicians get up such wonderful reputations as "diphtheria doctors," having had "hundreds of cases without a death, etc." If the contributor had stated that when a child is suffering from simple spasmodic or catarrhal croup he is more likely to be attacked by membranous croup than a child with a healthy larynx, just as a child with simple catarrh of the fauces is especially susceptible to the diphtheritic poison, then, indeed, I could agree with him.

Many children are frequent subjects of spasmodic croup; others never have it. It is a simple disease. An emetic is all that is usually required to put an end to the distressing symptoms. It commences abruptly, and ends equally suddenly. I had thought its pathology simple—a spasm caused by irritation in the larynx. How different the clinical picture of the other. It comes on slowly and insidiously. An emetic makes the little sufferer breathe easier for a little time, merely because it empties the larynx of mucus and sometimes pieces of membrane. This slight mitigation is only temporary, and soon the symptoms are

worse than before the emetic was used. In the majority of cases, the symptoms are progressively worse and worse, until death ends the struggle or tracheotomy is performed. I have only had one experience with tracheotomy, and that was so happy that it may make me over-sanguine of the operation. But I will not prolong this already too lengthy communication to discuss Dr. Winter's somewhat skeptical attitude towards tracheotomy. I purpose continuing to do the operation in such cases where I can, and expect to save more lives than do those who commit the fatal crime of non-interference.

Yours very truly, B. B. DAVIS, M.D.

McCook, NEB., September 24th, 1888.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

---

*Stated Meeting, October 2d, 1888.*

*The President, DR. H. T. HANKS, in the Chair.*

### MATERNAL IMPRESSIONS.

DR. E. H. GRANDIN presented a specimen with the following history, for the notes of which he was indebted to his house-surgeon at the Maternity Hospital, Dr. Van Winkle: The patient's family history was good, there was nothing unusual about the labor. The child was feeble and lived only about seventeen hours. The umbilical cord was only ten inches long, of the diameter of an ordinary lead pencil, and with tortuous, knotted vessels. One of the feet was markedly twisted outward. On questioning the mother, she said that, when about three months pregnant, a strange woman came to her door, and inquired about a person living in the same house. Her appearance was such as to frighten her greatly, and to leave a lasting impression on her mind. The woman was blind, walked with crutches, had only one foot, and this was deformed, being *twisted outward*. It was a cold day in March, and as the woman was barefoot, the circumstances were such as to fix upon her mind the deformity. This history the mother gave without knowing the condition of the child, as she had never seen it and had never been told about it.

Dr. Grandin stated that he presented the specimen as another instance of the possibility of an impression of the mother, arising in the early months of gestation, affecting the conformation of the child. The question was still a mooted one. Some writers be-

lieved that monstrosities were purely the result of arrested development, and that when maternal impressions seem to be effective, this is purely coincidental, basing their belief on the fact that there is no nervous communication between the mother and the fetus, the umbilical cord containing no nervous tissue. The weight of authority, however, would seem to be in accord with the belief that maternal impressions may affect the fetus. Personally, in quite an extensive obstetric experience, this was the first instance he had seen where there existed apparently a relation of cause and effect, and yet he had not infrequently been questioned anxiously by patients he was about to confine, as to whether the child was likely to be deformed as the result of an impression received months previously. He had always answered in the negative, and so far had been justified in his opinion. He referred the curious to a paper by Fordyce Barker, in a recent volume of the *American Gynecological Transactions* (No. XI.), for the history of some cases which spoke strongly in favor of the truth of the belief that maternal impressions might affect the fetus.

DR. ABBOTT inquired if the mother had had any other deformed children, or if any family history bearing on the case could be obtained.

DR. GRANDIN replied that the woman was a primipara, and that the pregnancy had been normal in every respect. As the mother was a Bohemian, it was difficult to get a full history from her.

DR. MURRAY said he had been very much interested in the subject, and in looking up the matter, had found a great many cases related in the older books, where maternal impressions seemed to be the cause of deformity in the fetus. The belief was widespread among the laity, and the mother usually asked if the child was perfect in shape or if it bore any marks. Deformities, however, were more commonly due to arrest of development; this was the case with the child he had presented alive at a former meeting of the Society, where there was arrest of development of right arm one inch below shoulder, and of both limbs two inches below the hip. The laity believed so thoroughly in the theory of maternal impressions that they carefully avoided seeing deformed people; but how much truth there was in this belief it was impossible to say.

THE PRESIDENT stated that, in many years' experience and a large practice, he had never been able to find a deformed child that the mother expected, or anticipated, on account of a fright during pregnancy. The anxious question whether the child is all right, was a very common one, but he had never yet found a single instance of deformity where the woman had been badly frightened. The thing, though possible, was improbable.

DR. MCLEAN.—One practical point ought to be kept in mind with reference to arrest of development. Any impression, to produce such an influence, must take place at a very early period. The laity will report such an occurrence at the fourth, sixth, or eighth month of pregnancy, or that the fright occurred three weeks before confinement. If there is any connection between shock on the mother's side with faulty development, it must occur within



the first few weeks of pregnancy. We can, therefore, assure the patient that, when the impression occurred so late, it had no power to effect deformity.

The President presented for DR. LEE, who was late in entering:

#### DOUBLE OVARIAN CYST.

The right cyst had contained about thirteen or fourteen pounds, and the left between sixteen and twenty ounces of purulent fluid. The main point of interest in the case lay in the fact that Sir Spencer Wells had been invited to perform the operation at the Woman's Hospital. Before he left London, he had performed 1,199 operations, and this case made the 1,200th in the series. Probably no other man would ever perform as many operations, as there are now so many skilled operators in the field. There were one or two points worth mentioning in the operation at which the speaker had assisted. In ovarian tumors filled with fluid, Spencer Wells practises the application of the rubber sheet to the abdomen. This sheet has an elliptical opening in the centre, through which the incision is made. The edges are fastened to the abdomen by means of adhesive material. After the cyst has been evacuated by siphoning through a trocar and rubber tube, it is raised through the opening.

Another peculiarity was a little simple practice of asking the assistant to insert the index-finger of each hand in the angles of the wound, at the same time compressing with the thumbs and second fingers the lips of the wound outside. This manœuvre entirely prevented the possibility of the protrusion of the intestines. This might be a small matter in nineteen out of twenty cases, but in the twentieth case it would be a useful point to bear in mind.

DR. C. C. LEE.—I am grateful to the President for presenting the specimen which I had sent chiefly with the intention of showing a well-marked papilloma entirely confined to the interior of the cyst; usually it perforates the centre and invades the peritoneal surface. Generally in such cases ovariectomy is useless, because a recurrence of the growth exhausts the patient very soon. Among eight or ten similar cases I have seen only one where the papilloma was confined to the interior of the cyst exclusively. The cyst and its contents weighed eighteen pounds; the liquid fifteen, and the cyst three pounds. The members can see in the specimen the immense development of the papilloma. There was also a secondary cyst of the right ovary which was very small. As the President will remember, in the effort to remove the second cyst, some of its contents, which looked cheesy, were spilled into the cavity; but the patient made a good recovery. I have thought that the members of the Society might like to see the specimen, because it was from the case which enabled Mr. Wells to complete his twelve hundredth operation, here on American soil, where ovariectomy originated. It was a matter of great gratification to him, as I know it was to me.

DR. NILSEN.—Were there any other practical points of interest?

DR. LEE.—Sir Spencer Wells desired the abdominal walls supported. Beyond that, there was nothing to be noted except this: we are taught that it is essential to take up the recti fascia in the suture of the abdominal wound; but he, in passing his sutures with the greatest solicitude, included the skin and peritoneum, but not the fascia. I do not know why he did this. We may be mistaken in uniting the fascia, for it is not to be supposed that a man so distinguished by good, strong common sense would have gone on to his present age—over seventy years—doing a thing without good reason. Our method may be a mistaken one.

THE PRESIDENT.—The abdominal wall had been much attenuated. The rectus muscle and fascia were very thin, and I was led to believe from the case before us that he would treat another one perhaps a little differently. The whole abdominal wall was hardly more than one-quarter inch thick, and it was somewhat difficult for me to tell the course of the stitches. In some he did not catch the fascia at all; he took it in only once or twice, fascia as well as integument and peritoneum. Another point of difference in his way of operating was, that he did not turn the patient on the side at all, but drew the fluid by siphon. He treated the pedicle by dropping it in. Another peculiar step which some would have been amused to see was this: After he had tied each side, the silk cord being abundantly long enough, he called for a new piece of silk instead of using the pieces left hanging.

DR. DUDLEY.—Is the patient doing well?

THE PRESIDENT.—On the second day the temperature rose to 101° or more and threatening symptoms appeared, but for the last five days her condition has been perfectly satisfactory. Dr. Lee removed the stitches on Sunday.

DR. J. LEE MORRILL read a paper entitled:

#### LAPAROTOMY VS. EXPECTANT TREATMENT IN CASES OF HEMATOCELE.

The best possible preface to the few remarks that I have to make upon this subject is offered by the following case:

On the evening of December 21st, 1888, I was requested by Dr. Bradshaw to see, in consultation with him, Mrs. G., who was having a miscarriage and had suddenly presented some very unusual and alarming symptoms. The doctor told me that while she had lost but very little blood from the cervix, she appeared completely exsanguinated, and that a large mass had appeared in the pelvis which might be due to either an ordinary extravasation of blood, or to the rupture of an extra-uterine pregnancy. I found the patient at 10 P.M. in a state of extreme collapse. The skin was cold and clammy, temperature 96½°, pulse 180 and almost imperceptible, respirations sighing, but the voice still retained its strength.

She gave the following history: She was 31 years old, had been married ten years, had borne six living children, the youngest child being one year and eight months, and up to the present had never miscarried. Her last menstrual period occurred on the 26th of October and, except a slight show the previous week, she had been perfectly well until the 19th of December, when she began to

have some premonitory pains in her back and abdomen which entirely disappeared, however, after lying down for a few hours, so that she was again able to resume her household duties. That night she rested well and was so much improved by morning that she began preparations for ironing. At 9 A.M. she commenced to vomit and shortly after to have bearing-down pains which became more and more violent, until one more severe than the others caused her to fall to the floor in a swoon. She was put to bed and the doctor sent for.

Physical examination showed the uterus enlarged and retroflexed, with the cervix high up and crowded behind the symphysis, while around the fundus uteri, filling Douglas' cul-de-sac and bulging into the vagina, was a globular mass having a boggy feel. Uncertainty as to the contents of the tumor, together with the great tenderness of the abdomen, prevented a satisfactory bimanual examination. A diagnosis of hematocele from causes other than tubal pregnancy was made after the careful consideration of all the symptoms. Stimulants were administered freely, an ice bag was applied over the hypogastrium, with morphine *q. s.*, to relieve pain, hypodermically. By midnight, her condition had become alarming, and the symptoms of dissolution so imminent that Dr. Coe was asked to aid us with his counsel. He confirmed the diagnosis of hematocele and agreed that no treatment other than the continuance of the stimulants should be pursued.

On the 23d, patient was again seen by me. She had rallied from the shock and felt much stronger, her temperature had risen to 100°, and her pulse had dropped to about 110. The mass was somewhat larger than when first examined, and still fluctuating.

During the night of the 24th, she expelled a decidua which was seen by Dr. Coe and thought by him to be of the second month of utero-gestation. Unfortunately, before a thorough examination could be made of it, the nurse threw it away. There was subsequently but slight flow and no more uterine pains.

The causes of pelvic hematocele may, in general, be stated to be:

1. Rupture of pelvic blood-vessels, *id est*, vessels of the uterus, ovaries, broad ligaments, and extra-uterine cysts.
2. Rupture of one or other of the pelvic organs.
3. Reflux of menstrual blood.
4. Certain constitutional diseases in which the quality of the blood and the alteration of the coats of the blood-vessels favor transudation, *id est*, scurvy, purpura, and chlorosis.

The causes at work in the reported case rank under No. 1.

This patient was either the subject of a uterine pregnancy, and the consequent pelvic congestion led to rupture during the labor pains of some one of the vessels supplying the essential organs of generation; or else, the hematocele formed in consequence of the rupture of an extra-uterine gestation sac. Which is the most plausible hypothesis?

At the present time there is a general disposition to refer all cases of hematocele to rupture of an extra-uterine pregnancy, but there is no positive proof of this. Even many cases in which the abdomen has been opened (Tait's cases), all that has been found has been a quantity of blood without any fetus, placenta, or any positive evidence of extra-uterine pregnancy.

We must not forget that blood may come from other sources, especially from the rupture of the dilated veins in the broad ligaments, and frequently during gestation. There were no symptoms, in this case, pointing to extra-uterine pregnancy. This raises another point, *viz.*: Is the diagnosis of extra-uterine pregnancy as easy as generally stated? Only when the patient has been under observation for some time before rupture occurs. If the patient is only seen after the occurrence of the rupture and formation of an hematocele (as in this instance), the diagnosis may be very doubtful.

In the case cited, there was a mass of tissue passed on the fourth day that bore a close resemblance to chorionic tissue. This was unfortunately thrown away, hence there must remain some doubt as to whether it was the product of normal or abnormal pregnancy.

Regarding treatment—shall we always open the abdomen, as Tait teaches, or wait? In this case the patient was clearly in no condition for an operation. She recovered on expectant treatment and this is the history of many of these cases. Few actually die from the hemorrhage alone, as after the pelvic cavity is filled with blood, the clot acts as a natural hemostatic and stops further bleeding. The great danger, then, is not so much from loss of blood, as from shock and subsequent suppuration and peritonitis. In our case we waited, intending to act if there were symptoms of peritonitis. Why not do this more often? Of course, if certain that a tubal gestation exists, and has ruptured, open the abdomen and check the hemorrhage in the usual way, but when simply an hematocele forms from laceration of a vein, it may be wiser to temporize and see if the patient will not rally, than to expose her to the shock of an operation and then not be able to find the source of bleeding. The impossibility, practically, of distinguishing between an hematocele due to rupture of a tubal gestation and an hematocele due to other causes, except by post-mortem examination, is my reason for presenting the case.

The points in regard to which I particularly request your opinion are :

1. Was this a case of extra-uterine gestation, consequent rupture and formation of an hematocele? If so, on what symptoms could such a diagnosis be based?

2. When we are in doubt as to whether an hematocele has formed in consequence of the rupture of an extra-uterine gestation sac, should the rule be to open the abdomen at once in the presence of profound shock, or should we temporize?

DR. McLEAN.—I would rather hear from the gentlemen who have seen more of these cases. I have seen a few of them; in these the history has been the same as that of Dr. Morrill. I have acted as he did, and all recovered. In one it was a very long time before the tumor was absorbed. In none of the cases did I feel that laparotomy was demanded.

DR. W. G. WYLIE.—There is not very much to discuss, as the paper did not touch some of the important points. As to laparotomy, it seems to me that, if we can reach the patient in the forming stages of the tumor, before she has very great shock, laparotomy is the proper treatment. In cases I have seen formerly I have temporized; but recently I have become bolder and had good success. In two of them I was satisfied they were cases of extra-uterine pregnancy; in one, the fetus was found. Cases must be treated according to the condition present, not according to general rules. As for not being able to stop the hemorrhage, in all I have seen it was easily done by raising the broad ligament and ligating it. Most of these cases are due to extra-uterine pregnancy. Another danger is where there are diseased tubes or ovaries, there temporizing would be the worst thing that could be done, the mass having already come into contact with suppurating matter. The best mode of treatment is by laparotomy. In some of the cases it is an easy matter to turn out the clot, and unless extreme shock is present, I would advise to do so; it is better than waiting until you have pelvic abscess. Many of the patients will be crippled by disease of tube or ovary when you leave such a mass; you call the patient cured, and she is not. But if you do laparotomy, and any disease exists, it can be removed at the time, without requiring a later operation.

DR. J. BYRNE.—The subject is one which has a good deal of interest for me. It seems to me that in all these cases the first point to be considered and settled is as to whether the hemorrhage has taken place in the sub-peritoneal connective tissue or into the abdominal cavity. If intra-peritoneal and the loss of blood be great or continuous, it matters not from what cause or source, a resort to laparotomy, so as to remove all clots and secure bleeding vessels, would, in my opinion, be imperatively called for. It must not be forgotten, however, that there is a form of pelvic hemocele, the subjects of which are, for the most part, multiparous women, and, according to my experience, these are quite frequently encountered; but, in the production of which, neither extra-uterine fetation nor ovarian lesions play any part, and where laparotomy would be uncalled for and unjustifiable.

If, for example, we find that the patient has been suddenly taken with intense hypogastric pain, anemic pallor, persistent vesical and rectal tenesmus, and if soon thereafter a digital examination reveals a large, moderately firm, or boggy mass in the recto-vaginal wall, the uterus at the same time being forced upward and forward behind the pubic symphysis, against which it appears flattened, such a case will, nine times out of ten, be one of sub-peritoneal hemocele. I have seen several such cases in their acute stages, and carefully watched their progress, and a still larger number have come under my observation at a later period.

The diagnosis of sub-peritoneal hemocele ought not to be a difficult task, and can hardly be confounded with hemorrhage into the abdominal cavity. With due care, also, we will generally be able to differentiate between the former and retroversion in the



earlier months of pregnancy, or the displacement of a fibroid into Douglas' pouch, though I have met with two cases in which each of these last-named accidents had been mistaken for hematocele or hematoma, but subsequently were relieved by proper measures.

As for treatment: the more urgent symptoms immediately following the attack having been met by stimulants and anodynes, etc., an expectant course based on general principles had better be observed, and the interesting and instructive case related by Dr. Morrill fully illustrates this point. After some time, however, it may be found that, owing to the large amount of blood extravasated, its disappearance by absorption cannot be looked for, the mass will begin to soften in spots, indicating its disorganization, and threatening serious destruction of tissues with danger of rupture into the abdominal cavity. In this grave emergency—and I have seen at least half a dozen alarming examples—prompt surgical measures for evacuation through the vagina, with strict antiseptic observance will be demanded.

The method adopted by Sir J. Y. Simpson in some of his cases, namely, opening into the tumor soon after its formation and forcibly removing the clots of blood, has not, I think, found many followers. My first case of pelvic hematocele was reported in a paper read before the New York Academy of Medicine nearly thirty years ago.

DR. LEE.—I was very much interested in Dr. Morrill's paper, both because the case was an exceptional one, and on account of the circumstances under which it occurred. The condition of hematoma rarely occurs in miscarriage. I suppose we are all at one as to the causation. I have to add simply my own opinion as to the method of treating cases in practice. I may say that a number of years ago I read and published a paper on this subject, in which I tried to indicate my course of treatment. I am not ashamed that I have changed my opinion. Where an intra-peritoneal effusion of blood is going on, we ought to open the abdomen. How ought these cases to be generally treated? The average surgeon is incapable of doing laparotomy without causing such a condition of the patient as will settle her fate. But if an expert can be got, unquestionably the teaching of Mr. Tait is good—whenever a rupture of a tubal pregnancy occurs with collection of blood, laparotomy ought to be done. But in cases such as Dr. Byrne describes, where the tumefaction can be probably diagnosed as extra-peritoneal, where we can feel the tumor forming, and the patient's condition is such as to give any hope by other treatment, laparotomy is contra-indicated. But where the tumor cannot be felt forming, there is little prospect of recovery unless you open the abdomen and check the hemorrhage. That class of cases usually occurs in parous women who are likely to have extra-uterine pregnancy, and you can generally anticipate where the hemorrhage is apt to be. Therefore, I would say, in general terms, that in conditions of supposed hematocele where the collection of blood is within the peritoneal cavity, where you cannot feel a forming tumor, where the antecedents lead you to believe that the patient is likely to succumb, immediate laparotomy is the proper course. Where you can feel a tumor forming in the vagina, I think the treatment ought to be expectant. I think that will gradually come to be the recognized ground in almost all cases of hematocele. I have seen within the past three months two cases correctly diagnosed as extra peritoneal hematocele.



DR. COE remarked that there seemed to be a tendency to attribute nearly all cases of internal hemorrhage in women to rupture of the sac of an extra-uterine pregnancy. Hence, when called to such a case as the one reported this evening, instead of referring the hematocele to the ordinary causes, nine men out of ten would at once infer that the patient had a ruptured tubal sac, especially with a history of pregnancy. Now, one of the best-recognized causes of hematocele is rupture of the veins of the ovarian plexus under the influence of increased pressure, especially during menstruation. Bernutz, Bandl, Winckel, and others have attributed this accident to a varicose condition of the veins in the broad ligaments, a condition observed during pregnancy. Severe bodily efforts have often been noted as the immediate cause of the rupture of such enlarged veins. The hemorrhage from lacerated veins in the broad ligaments is not only very difficult to check by ligature, but it often ceases spontaneously, as every laparotomist has noticed. Moreover, a considerable quantity of blood may be left in the pelvic cavity with impunity after an aseptic operation; if the abdomen has not been opened at all, the danger from such an accumulation is still less. The question is then a fair one: In doubtful cases, like the one reported, where it is by no means certain, or even probable, that an extra-uterine pregnancy has ruptured, and where the condition of the patient and her environment are unfavorable for the successful performance of laparotomy, is it not better to be content with expectant treatment? It may be asked quite pertinently, How can we always be sure that we are saving a patient's life because we open her abdomen and wash out a quantity of blood-clot resulting from a supposed tubal rupture? Perhaps she would have recovered quite as well without our interference.

DR. WYLIE.—Have you seen many cases on post mortem where the blood was not intra-peritoneal?

DR. COE replied in the negative.

THE PRESIDENT.—But the patient may not die.

DR. WYLIE.—Many cases called extra-peritoneal are not so. I am very much in doubt whether we have any large effusions of blood that are not intra-peritoneal.

The old view was that they were extra-peritoneal. I have lost faith in that view. I doubt whether any considerable effusions of blood are not always intra-peritoneal; just as in pelvic abscess, we now know it is intra-peritoneal. These effusions of blood soon become encysted and fixed by peritoneal exudations, and are pushed downward and simulate extra-peritoneal masses.

DR. BYRNE.—I am glad that Dr. Wylie has raised this question, which, in my desire to be as brief as possible in my remarks, I omitted to refer to. I am well aware that Bernutz, and very many of the French authorities, hold that nearly all of these pelvic hemorrhages are intra-peritoneal, but in this opinion I am convinced they are in error, for their inferences and conclusions have been based mainly on autopsies, and the dead-house is not the place to see and study cases of sub-peritoneal hematocele. It is not surprising that, until laparotomy became a recognized and legitimate operation, such was the opinion, and even yet a very large proportion of these cases might furnish material for post-mortem study. There is but little probability that intra-peritoneal hemorrhage, to any great extent, whether from tubal pregnancy or other causes, can fail to be recognized either during life or post mortem. On

the other hand, however, rupture of enlarged and diseased veins external to the peritoneum, being seldom fatal, and often unattended with alarming symptoms, may, and doubtless does, take place quite frequently. Such, I surmise, are many cases of "*celulitis*" and "*pelvic abscess*" which are met with in consultation practice, and which, on close investigation, I have often been able to trace to a well-marked hemorrhagic origin.

Much diagnostic significance has been claimed for the co-existence of an abdominal with a pelvic tumor following these hemorrhages, as indicating the seat of the extravasation; but certain experiments on the cadaver, undertaken over a quarter of a century ago,<sup>1</sup> would seem to prove conclusively that this cannot be considered a trustworthy guide. Indeed, by far the larger part of the bloody mass may be found above the pelvic brim, and yet an explorative laparotomy might fail to reveal the existence either of tubal pregnancy or any abdominal lesion as a source of the hemorrhage.

In one of my earliest cases there was an almost fatal hemorrhage into the pelvic cellular tissue, forming a tumor which extended from the posterior vaginal wall up to, and above the crest of the ilium, and nearly to the umbilicus in a lateral direction. At the proper time a large trocar was passed into the swelling behind and below the uterus, and an enormous quantity of intensely offensive disorganized blood drawn off. The patient recovered and is still living. It is quite probable that had not timely surgical aid come to this patient's relief, rupture into the abdominal cavity from continued pressure behind the peritoneum would have taken place, and thus she might have furnished another example of intra-peritoneal hemothecle—*post mortem*.

My views on the etiology of these pelvic hemorrhages were fully stated in the memoir referred to.<sup>2</sup> They have undergone no change by subsequent observation and a larger clinical experience. Moreover, I believe they are fully in accord with most authorities at the present day.

<sup>1</sup> "A small opening was made into the superior fold of the broad ligament on left side, and at a little distance from the inferior border of the ovary, into which was inserted the tube of a syringe, such as is used for anatomical injections; the parts having been carefully secured by ligature, water was now thrown into the cellular tissue, which it entered with facility, separating the two layers of the peritoneum, and spreading them out in the form of a tent. At that juncture the water passed with much more ease than elsewhere, under the peritoneal covering of the iliac fossa, raising the same off the muscle, but quickly and with but little force, filled up the whole recto-vaginal septum, and opposite (right) side as high up as the brim.

"A vaginal examination was now made, when the finger came in contact with a large *central (retro-uterine) swelling*. The injection being next continued, the left iliac fossa rapidly became very much distended, and that of the opposite side also swollen, but to a more limited extent.

"The post-uterine connective tissue, as high up as the junction of the cervix with the fundus at least, offered no resistance to the passage of the liquid."—"Researches and Observations on Pelvic Hemothecle," 1862, by J. Byrne, M.D.

<sup>2</sup> "Though, after parturition, the uterine sinuses contract, and vessels imbedded in the dense stroma of that organ are supposed to resume their original size and condition, yet it by no means follows that the utero-ovarian 'thin-walled veins *without valves*' (Kölliker's "Manual of Hu-

THE PRESIDENT.—The patient gave a history of skipped menses. There is no question but that she had a miscarriage, and an ovum was expelled. She was in such a profound collapse that none of those who assisted her could believe it was a simple abortion. An hematocele undoubtedly occurred during the expulsion of the ovum. I think no woman can carry an ovum in the tube for three months without symptoms, which are so unusual as to cause her to mention them to her physician. The main question is, what to do. I think that we must consider first of all where the blood is. There is no doubt that it is sometimes in the peritoneal cavity. If the patient is failing, the abdomen should be opened, for the purpose of tying the blood-vessels. My reason for this statement is, that I have seen three or four such cases where the blood was in the peritoneal cavity. One of these cases occurred ten or twelve years ago. I saw the patient some three months after the tumor had formed. I was sure it was an hematocele, not a hematoma; the abdominal tumor extended nearly to the umbilicus.

After three months' treatment, as the patient was losing ground, I decided to draw off the grumous blood through a large trocar. I succeeded in drawing off fully one quart. The patient improved, but was not perfectly cured.

I have seen other cases where the tumor was composed entirely of blood, as shown by the hypodermic needle. Laparotomy was refused. Intra-peritoneal clots of blood ought not to be allowed to remain in the abdomen, for though the patient may live, she will not fully recover. We are justified in doing some operation. There is no question that varicose veins underneath the broad ligament may burst. We know that the blood is not in the abdominal cavity in large amount, therefore, we are quite sure we have hematoma. But such cases are not alarming, as they get well after a time, for the quantity of blood effused is not large. But in cases of hematocele, where a quart of blood is effused, it ought not to be allowed to remain if the patient is failing.

DR. DUDLEY.—I simply want to call attention to one point in the paper—was it pregnancy or ruptured vessels? All the authorities make the statement that ruptured vessels are the most frequent cause of hematocele. In none of the works I have studied, except Tait's, do I find the tube mentioned. If it was pregnancy, some remnant ought to be found to indicate it. Mr. Tait reports thirty cases of laparotomy for extra-uterine pregnancy, and in many he found no fetus. Winckel found in three hundred cases, on autopsy, varicose veins and phleboliths. I believe this is one cause of the hemorrhage, the formation of the stone and ulceration. If the rupture of the vein takes place towards the broad ligament, there is intra-peritoneal hemorrhage; on the opposite side, it is extra-peritoneal. I certainly agree with all the speakers. If

man Histology," page 257. Syd. E l.), possessed with little or no contractile power, and surrounded by loose cellular tissue, should undergo a similar change. Indeed, it would seem more probable that *permanent dilatation of these veins*, more or less, *is a necessary consequence of pregnancy*; and if the ovarian vessels, in that condition, bear any analogy to those in the lower extremities, which never resume their original size, nor disappear but by obliteration, it is evident we must look here for the only true predisposing cause in all cases of sub-peritoneal hematocele, and which, as I before intimated, may safely be put down at 80 per cent of the whole."

we make an examination we should demonstrate whether there were varicose veins or ulceration from phleboliths. An extra-uterine pregnancy is the most infrequent cause, and not to be entertained unless you find the fetus by laparotomy.

DR. MORRILL.—This case was in such a condition that it was impossible to examine either with, or without, ether. I do not myself believe it was extra-uterine pregnancy. One reason is, that she was so well until she had the miscarriage, and then the subsequent behavior of tumor. If it had been extra-uterine pregnancy, there would have been some symptoms, but the temperature did not indicate it. I saw the woman to-day and examined her carefully; the mass is still present. She shows symptoms of pregnancy in the third month. The uterus is perfectly movable; if there had been rupture of the tube, that uterus would have been fixed by some adhesions. The mass is fluid. Another point arises: What will become of that mass in confinement? Will it be better to aspirate or lay it open per vaginam?

#### EXPLORATIVE LAPAROTOMY: CARCINOMA AND FIBROID.

DR. NILSEN.—I was called out of town to see a patient, and on the way from the depot the attending physician gave me the principal facts in the case; he thought she had a large ovarian cyst. The patient, whom I found in a low state from exhaustion and dyspnea, seemed very intelligent, and gave evidence that there had been a hard tumor a year or more ago, and that since then fluid had formed. The abdomen was greatly distended with fluid. The patient's condition made a careful examination impossible, no pressure could be made from without. I examined per vaginam and found nothing to base a diagnosis upon, except two small hard masses low down, which caused me to suspect cancer. I could reach no definite conclusion except that an operation was necessary to relieve the enormous distention. I opened the abdomen the following day, and removed about two gallons of fluid. A large uterine fibroid tumor was found surrounded by large cancerous masses, to remove which was impossible. I left a glass drainage tube in and closed the wound, ordering the tube changed for a shorter one of rubber in a few days, and drainage favored by occasional postural changes. The patient has been greatly relieved by the operation, but what is the best way of continuing the treatment?

DR. WYLIE.—For a permanent drainage, glass is better than rubber. I have left such tubes in as long as three or four weeks, and kept them aseptic. My experience with draining extends only to tuberculosis, cancer, myxoma, etc. Rubber is much more liable to become foul. There is no especial danger if the wound is kept perfectly aseptic, as encapsulation takes place very soon.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

*Friday, June 8th, 1888.*

DR. DA COSTA *in the Chair.*

DR. C. B. PENROSE reported

### TWO CASES OF EXTRA-UTERINE PREGNANCY, LAPAROTOMY, RECOVERY.

M. C., aged 32, had had four children, the last seven years ago, and two miscarriages, the last eleven years. She was treated for syphilis, and uterine retroversion, in 1883. She applied for treatment again on February 6th, 1888. She had been bleeding profusely from the vagina for thirteen days, and had suffered with continuous sharp pain in the left side for the same length of time. The pain and bleeding had started suddenly after heavy lifting. There were no signs of pregnancy. Vaginal examination revealed a small retroverted uterus, and a tender cystic mass about the size of a duck's egg lying to the left of the fundus. Three days later this mass was again examined, and found to have increased to the size of a large orange. Laparotomy was performed February 10th, 1888.

The left tube was found distended at the outer half by a cyst the size of an orange. About three ounces of recent blood clot was found in Douglas' pouch. The cyst was very friable and easily ruptured during the removal, and a considerable quantity of old blood clot escaped into the peritoneal cavity.

The left ovary was independent of the cyst in the left tube. The right ovary was cystic, and was also removed along with the right tube.

The convalescence of this woman was uneventful. She has menstruated naturally since the operation; three months after the operation her breasts became enlarged and painful, and she was able to squeeze milk from them. This secretion of milk lasted for two weeks, until stopped by belladonna ointment.

These mammary symptoms were the only signs of pregnancy exhibited before or after the operation, and I wish to ask the members of the Society whether it is not an unusual occurrence for this secretion of milk to take place so long after the removal of the product of conception.

*Case II.*—E. B., aged 28, has had four children, the last one a year ago, she had not menstruated since her last labor, until two months before she presented herself for treatment. She then be-



gan to bleed profusely, and to suffer with great pain in the left side. For the last few weeks the bleeding had been accompanied by the discharge of shreds from the vagina.

Vaginal examination revealed a large cystic mass to the right of the uterus.

Laparotomy was performed May 22d, 1888. To the right and posterior to the uterus was a blood cyst, about the size of an orange. The cyst was firmly adherent to the posterior surface of the uterus and to the right ovary and tube, and the right tube opened into the cyst.

As you will see from the specimen, this cannot be called a tubal pregnancy, as the first case, where the tube is distended by a cyst containing the product of conception. In the second case the tube opens into the cyst. In each case there was disease of the opposite tube and ovary, the ovary being in each instance as large as a good-sized egg.

The second patient is now out of bed.

DR. M. O'HARA.—Dr. Penrose asks with reference to the presence of milk in the first case. I have seen one case in which milk never appeared. The mother was delivered at full term, and the child died. Dr. O'Hara does not think belladonna has any effect in arresting the secretion of milk.

DR. WILLIAM GOODELL said that anything producing irritation of the genito-urinary organs may cause the appearance of milk in the breasts. The presence of a fibroid tumor may even do so.

DR. WM. L. TAYLOR exhibited specimen from a case of

VAGINAL HYSTERECTOMY FOR PROCIDENTIA WITH EPITHELIOMA OF  
THE CERVIX UTERI AND VAGINA.

The patient had, several years prior to the appearance of the epithelioma, procidentia with a gradual thickening of the vagina. The principal symptoms complained of were due to the occlusion of the urethra and rectum. The operation was performed to relieve these symptoms. The patient died three days after the operation.

The specimen is interesting from the fact that it shows occlusion of the cervical canal by the epitheliomatous matter. To the right side there was an opening which I thought to be the external os, through which the sound entered three and a half inches. At the operation it was found that the sound had entered the diseased mass, the uterus being in the median line. The patient's death was due largely to shock.

DR. JOSEPH HOFFMAN reported a case of

PERITYPHLITIC ABSCESS ORIGINATING IN TYPHLITIS.

exhibiting the specimens.

The patient, Mrs. B., married, with three children; when first seen she had a pulse of 128, and a correspondingly high temperature, and unable to stir in bed without extreme pain. Careful



questioning elicited the information only that eight days previous she had slipped from a chair, causing severe pain thereby in the right iliac region. This continued up to the time at which I was called in, when she was compelled to take her bed.

The duration of her trouble, according to her own statement, was limited to a little more than a week, though in this connection she mentioned the occurrence, previous to menstruation, of an ill-smelling vaginal discharge. Examination per vaginam discovered the presence of a tumor to the right, alongside the uterus, the touch of which gave her much pain. The rectum was empty, she having had a dysenteric attack the previous day. External examination was so painful that I did not attempt it. The pain in her back and right leg was intense. I decided that operation was necessary and called in Dr. Joseph Price for consultation, but examining under ether was somewhat uncertain as to the condition.

Operation being decided upon, an opening was made in the median line, an exploration made.

The cecal portion of the intestine was found matted down, and was freed after much difficulty. The appendix was almost completely buried in pelvic tissue, and the temptation was big to tie it off piece by piece, though it was afterward enucleated by persistent effort. The cecal portion of the bowel was almost gangrenous in spots and nearly ulcerated through.

Surrounding this portion was a quantity of stinking pus, about two ounces. The pelvis was carefully washed out, no antiseptic being used, and a drainage tube introduced into the cul-de-sac, and a rubber tube tube led from the fossa through the incision which was closed by seven deep and superficial sutures. Nothing was done with the bowel save to cleanse it. The bowels were at first moved by enemata, and after a quantity of scybala was discharged, calomel in one-sixth grain was given to clean the tongue and relieve bilious vomiting. The patient made an uninterrupted recovery, all the stitches being removed, as well as the tubes, by about the tenth day. The patient now, at the twenty-fourth day, is sitting up, entirely free from pain. A curious feature of the case is that, after removal of the offending appendix, the patient in three days remarked she had never been so free from pain for two years, then going on to give exact history of her trouble, all of which pointed to perityphlitis. Her pain had become so much a part of her that she did not seem to recognize it as foreign.

The points to which attention may be called are the closing of the incision and the location of the same. Although central drainage was perfect, and though sutured, it promptly healed, showing, I think, that dogma, both as to location and to allowing the incision to remain open, is not wise; as in this case the central incision enabled us to remove at the same time an ovarian hematoma, otherwise out of reach, and as drainage was perfectly obtained, these points for such operation are worthy of special consideration.

As to some points in the diagnosis I shall not refer, leaving them to Dr. Price who so kindly worked with me; I would only venture the opinion that here, as in all other pelvic surgical diseases, absolute diagnosis is very often impossible, depending, as it does, so much on anamnesis, which, as in this case, is little to be relied upon.

DR. CHAS. B. PENROSE.—I would ask whether or not the pus was encysted around the cecum, or free in the peritoneal cavity.

DR. HOFFMAN said the pus became evident only on raising the cecum.

DR. PENROSE said the cases in which it is proper to make the incision over the cecum are those in which there is an encysted abscess around the cecum or the appendix. If there is free pus in the peritoneal cavity, a median incision would probably be better.

DR. GOODELL said that he, on several occasions, has been obliged to sever the appendix from its attachment in operations for the removal of ovarian tumors, and the operation has seemed to have no effect. It seems to be a useless appendage. He did not know that modern research had thrown any light upon its use. In removing the appendix, he simply ligated it with silk and cut it off, carefully squeezing the end so that no fecal matter should remain.

DR. JOS. PRICE said a few years ago ovariectomists regarded the appendix as sacred, as something that should never be touched. The case reported is one of great interest. The woman had complained for two years, her trouble evidently beginning in a typhlitis. The cecum was so much thickened and so low down in the pelvis as to suggest tubal disease. She, however, had good history and several healthy children, the youngest two years of age. The presence of the tortuous body on the right side determined the choice of the median incision. On opening the abdomen, the small hematoma was first removed; afterwards, the cecum was dealt with. The course of the case was all that could be desired.

DR. T. G. MORTON teaches lateral incision and non-closure. As to the first, circumstances should influence the choice.

As to the second, he did not believe in it at all; we are too far advanced in surgery for such procedure.

DR. J. V. KELLEY said that the general practitioner met more cases of perityphlitis than the specialist, and was disappointed in not hearing more about the history of the present case. He was also surprised that this case occurred in a woman, the disease being much more common in men. The existence of pain for a year or two would be against the existence of perityphlitic abscess over that time. Perityphlitic abscess is an acute disorder, and runs an acute course.

DR. J. PRICE does not believe the view that perityphlitis is necessarily acute. He knew of a case of Dr. T. G. Morton, where the operation for the trouble was repeated at the end of a year, and the appendix removed. Here the trouble was recurrent, gradually growing worse, and necessitating the second operation.

DR. M. O'HARA cited in substantiation of Dr. Price's view the case of his own child, in which, inside of eleven months, there were two or three attacks. For four or five months he was in perfect health, although the condition (typhlitis) existed. Another attack followed, and death from septic peritonitis resulted.

DR. M. PRICE believed that the peritoneum can accommodate large quantities of pus for a time, just as abscess in other parts of the body can be tolerated.

DR. WILLIAM GOODELL thought that perityphlitis, like any other form of inflammation, may exist for years. He thought Dr. Kelley had narrowed the question down too far.

DR. HOFFMAN held it a mistake to believe inflammation cannot be present in these cases without the presence of a well-defined tumor. It is easy to make a diagnosis after operation, as is too often done. Pages could have been written after the operation on the diagnosis of perityphlitis, but *before* operation it was impossible, because there was no history. There was nothing but the inflammation of the appendix to cause the symptoms of which she complained.

DR. J. V. KELLEY thought no one would diagnose perityphlitic abscess without the presence of a tumor. The pericecal tumors undergo resolution spontaneously, and abscesses do not form.

DR. J. B. BEAVER drew a distinction between typhlitis and perityphlitis, and believed very few cases of inflammation about the appendix undergo resolution.

DR. G. M. SHOEMAKER cited a case which he thought proved a termination by resolution in one such case.

DR. WILLIAM GOODELL presented

#### A SPECIMEN OF OVIDUCTS AND OVARIES, DISEASED BY GONORRHEAL INFECTION.

The ovaries were enlarged by cystic and interstitial degeneration. The meso-salpinx was wholly absorbed, and the fimbriated extremity of the oviducts was enlarged into a bunch of cysts, and the adhesions to the broad ligament were firm.

History as to the infection was a clear one. The husband had the gleet, and directly after marriage the wife's health began to fail from groin pain and reflex neuroses of a high grade. By vaginal examination, the concurrent implication of oviducts and ovaries was very manifest, as both organs were readily differentiated. The patient did well.

Dr. Goodell also exhibited

#### A SOLID OVARIAN TUMOR OF SUSPECTED MALIGNANCY.

The girl from whom he removed it was only sixteen years old. It had grown very rapidly since it was first discovered a year and a half ago. It weighed six pounds, and for its removal needed an incision of nearly twelve inches. The pedicle was a very broad one. Some ascitic fluid was present. This patient was also doing well.

He further exhibited

#### A FIBROID UTERUS WEIGHING EIGHTEEN POUNDS.

A rapid accumulation of a large amount of ascitic fluid rendered the operation imperative. The patient had, on account of pressure upon the diaphragm, to be anesthetized in the sitting posture, and it was only after removal of the fluid that she could be safely

placed in the recumbent posture. The incision needed for the removal of the tumor was a very long one. The pedicle was treated extra-peritoneally by Koeberlé's wire clamp. Thus far all the symptoms are favorable, but as only forty-eight hours have elapsed since the operation, the patient is not yet out of danger.

DR. J. PRICE was glad to hear Dr. Goodell say operation is the only treatment of such cases. He never operates simply for relief of nervous symptoms, but wants actual disease.

DR. C. B. PENROSE exhibited specimens removed from a patient who had been treated several months in 1884 for

#### CHRONIC CELLULITIS

by the usual applications. She was married, and had two children, the last five years ago. In 1886, she returned for treatment. Diagnosis, cyst of left ovary and tube. She was again treated by the common applications. One week ago she returned for treatment, and pyo-salpinx was diagnosed: the tubes and ovaries were found down in the hollow of the sacrum. The left ovary contained one drachm of purulent material.

---

*Thursday, September 6th, 1888.*

J. C. DA COSTA, M.D., *in the Chair.*

DR. WM. GOODELL read a paper entitled

#### A YEAR'S WORK IN OÖPHORECTOMY.

During the year 1887 he had had nineteen cases with one death: but including the cases he had since had, there was only one fatal result in twenty-nine cases. The cause of death in this fatal case was uremic coma from suppression of urine. How far the administration of ether was to be blamed for this renal complication he was not prepared to say, but he was inclined to think that chloroform was not so liable to cause congestion of the kidneys. The operation was performed for diseased ovaries and tubes, which were greatly crippling her.

The eighteen successful cases were performed for the following reasons and with the following results:

Uterine fibroids, cured, 5; improved, 1.

Menorrhagia and ovaralgia, cured, 2; improved, 1.

Ovaralgia, cured, 3; improved, 1.

Epilepsy, improved, 1.

Hystero-neurosis, cured 1.

Insanity, unimproved, 2.

Pseudo-muscular hypertrophy, unimproved, 1.

In his experience, the removal of the ovaries for uterine fibroids is almost always followed by a cure, that is to say, menstruation ceases, the tumor rapidly lessens in size, and no further inconvenience results from bulk pressure.

Of the three cases of menorrhagia associated with ovaralgia, the lack of complete success in one was due to the fact that only one ovary could be removed. The other ovary was so matted in organized exudation as not to be distinguishable.

The failure in one of the cases of ovaralgia was due to the persistence of menstruation after a thorough extirpation of both ovaries. This is a very rare result, but it will occasionally happen. Menstruation usually ceases in these cases after the lapse of a few months.

In the case in which the ovaries were removed for epilepsy, the result has not thus far been a cure, but the attacks come at longer intervals. Hardly time enough has elapsed for the woman to reap the full benefit of the operation, for she still has regular catamenial molimina accompanied by bloody expectoration.

Time enough has not yet elapsed to decide whether the two insane patients will be improved or be cured by the operation. Each one was an invalid, and each one became physically well, but not mentally so. In Dr. Goodell's experience, which has not been a small one, those cases which exhibit aberration of intellect only during the menstrual periods will almost always be cured by the removal of the ovaries. But cases of insanity in which the hallucinations are continuous, yet much exaggerated at the catamenial periods, are by no means so likely to be cured by the operation, although they are generally very much improved. In any case about two years' time must elapse before the nerve perturbations of this artificial change of life wholly disappear, and a cure should not be expected before that lapse of time. What is true in mental cases and in purely nervous ones is also true in a measure when even coarse lesions of the ovary are found. Hence the surgeon must not look for full results, or for complete freedom from groin-aches and pelvic pains, directly after the removal of even diseased ovaries and tubes. He must wait patiently for the ovarian nismus or habit to cease, until, in fact, the menopause has been wholly and fully established in every way.

In the foregoing nineteen cases, the spray was not used, but every other antiseptic detail was carefully carried out. The pedicle was tied with silk; the wound was closed by the same material, and dressed with gauze dipped in a glycerole of carbolic acid. Drainage was employed but once, and that in the fatal case, but this had nothing to do with the issue. Eleven of the cases were treated at his private infirmary, seven at the hospital of the University of Pennsylvania, and one at the patient's own home.

DR. H. A. KELLY liked the moderate tone of the paper just read. He believed that here, as in other fields of work, we must be often satisfied with relative results. He liked the term "ovaralgia" now better than he once did. Until we are better able to differentiate the exact nature of the lesion in some of these cases, he thought the term "ovaralgia" used generically is a good one.

He had a rare case of Salaam convulsions, which had been



treated for a long time. He had been called in to decide the advisability of an operation, and had refused to remove the ovaries. Two years later, the ovaries had been removed and the patient cured. There did not seem to be any distinct connection between the pelvic and general condition.

DR. M. PRICE asked Dr. Goodell if in these operations he had ever noticed on ligation any change in the number of the heart beats. He had several patients in whom, on the evening of the day of operation, he had found the pulse as low as 48. He had noticed somewhere that an operator found a drop of the pulse from 80 to 35 on ligating the ovarian nerve. Since then he had had the pulse beats counted on a number of patients at the time of the ligation, and had found a drop of only four or five beats at most.

DR. J. PRICE said that Dr. Johnston, of Danville, Ky., had dwelt on the matter of slowing of the pulse very fully.

He thought that the explanation of continued pain after an operation was to be found in the adhesions of the intestines, etc. Some of his most satisfactory results had been obtained in cases of extensive adhesions. In a recently reported case, the patient had complained of agonizing abdominal pain. An adherent omentum and a knuckle of intestine had been separated, and complete relief obtained. He had operated on a number of cases where the only lesion found was a general adhesion of the whole mass of intestines. He had thoroughly separated them, and had obtained most satisfactory results. Mr. Tait has repeatedly reoperated to free adhesions. He felt that operation for nervous disturbances was of very doubtful benefit, and he never operated unless he found actual disease. He preferred handing the patient over to others.

DR. M. PRICE related a case in which the whole trouble was due to adhesions. It was supposed to be a case of gall stones. No disease and no gall-stones were found, but the intestines were matted together. The adhesions were released, and no pain was felt afterwards.

DR. JOSEPH HOFFMAN.—Dr. Price has referred to lowering of the heart beat after application of the ligature. In a case of his own, the pulse which, on the day of operation before ether had been given, was 120, had gone down in a few hours after the operation to 58. After ten days it crept up to 80. This low register of 56 to 58 was sustained even in spite of the temperature being 101° or 102°.

DR. B. C. HIRST had operated on a case in which a small portion of one ovary was left. The case had ceased menstruating even in spite of the part left behind. A stitch had been passed through the remaining piece.

DR. W. S. STEWART wished to know the effect of removal of both ovaries on menstruation—if, at the time it should occur, there were any evidences, such as acceleration of the pulse, etc., as seen at the menopause.

DR. WM. GOODELL had referred to the point suggested by Dr. Stewart in his paper, and he said that just such symptoms appeared in these cases as appeared after the natural menopause. The full results were not obtained until after these ceased. He had never noticed a fall in the pulse beat as referred to, but he has often seen serious collapse follow the pinching of the ovary. He had seen the temperature fall to 97, and in one case below this. He thought that a counterfeited aneurism was by no means an infre-



quent symptom of ovarian disease. He had had a patient from a distance suffering from ovarian enlargement, aortic pulsation, and other nervous disturbances, for which he prescribed. Afterwards a local surgeon insisted that she had aneurism. A second examination convinced him that such was not the case. This was afterwards made evident by her passing through an exceedingly difficult confinement safely. There are two conditions in which he was most willing to operate for the removal of the ovaries although he found no disease. One is *epilepsy*, the other is *insanity*; for in these cases a woman should never conceive. He believed that the State should interfere to prevent men and women who suffer from epilepsy or from insanity from getting married. Indeed, he is not sure that the day may not come when, by act of legislature, an insane man will be castrated and an insane woman will have her ovaries removed. He has had a good deal of experience with removal of the ovaries for insanity, and has had some happy results; on the other hand, he had been disappointed at times. In cases of epilepsy, he had not had so much experience. He wished that gentlemen who have had such cases would report them.

DR. C. M. WILSON had had three cases such as spoken of by Dr. Goodell. In two the result was negative. One patient was apparently benefited for some months, but recent reports say that there is a gradual relapse into the former condition.

DR. H. A. KELLY had, about three years ago, operated on a girl with a brachial palsy, resulting from infantile palsy, with also epileptic attacks, pre- and post-menstrual in character. For some months there was no improvement, but lately she has become better.

Dr. Kerlin had remarked to him that if, in a good many of these cases of hopeless idiocy, operations were performed, removing the respective organs during the period of active growth, they would not develop some of their worse features and would be more easily managed.

DR. J. M. BALDY had a case which at the time of operation looked like true epilepsy. There was excessive pain, vaginismus, and other symptoms. The pain was relieved but not the vaginismus, for which a subsequent operation was performed. The epileptic attacks had continued. They were, however, becoming much less frequent than formerly. Some two years had now elapsed.

DR. J. PRICE operated on a patient with double pyo-salpinx and epilepsy at the menstrual period and at no other time. The recovery was complete and the relief absolute. Some ten months after, she went to another institute complaining of pain, and was again opened. He wished to know whether or not in these cases convulsions come on during the period in which the patient is in bed after operation.

DR. JOSEPH HOFFMAN had a case of three months' standing which suffered from hemato-salpinx and suppurating appendix. The patient had been having epileptic attacks. She has been entirely free from them since the operation.

DR. W. S. STEWART said that he did not think that the ovaries should be removed in all cases of epilepsy as suggested by Dr. Goodell. He had an epileptic patient whom he had confined several times and whose children showed nothing wrong about the intellectual development.

He had removed the ovaries of a woman suffering from epileptic

seizures and she had received no benefit from the operation. She is now in an insane asylum.

DR. GOODSELL said that there was no disease so likely to be inherited as epilepsy and insanity. If Dr. Stewart lived long enough he would find the children referred to develop the disease.

DR. H. A. KELLY reported

#### A CASE OF CESAREAN SECTION.

He operated April 17th of this year, delivering a living child and saving the life of the mother.

The patient, a slight woman, four feet four inches in height, had been in labor two weeks, her physician Dr. Ireland having watched by her bedside constantly for nine days previous to the operation. The waters ruptured four days before operation.

The estimated actual conjugate diameter was two and a quarter inches, although the pelvis was so choked by general edema and hard cellulosic masses that it was impossible to recognize any structures with satisfaction, much less reach the presenting part of the child.

The patient's pulse at the time of operation was 142. The operation lasted thirty-five minutes. The after-condition and convalescence was one of comfort and rapid recovery.

This makes the ninth case operated on in Philadelphia, the first being by Prof. Gibson in 1835, the historic case of Mrs. Reybold.

Dr. Kelly stated that he had since that time also operated upon another case for a relative indication, in preference to performing craniotomy upon a living child, with the result of saving both mother and child; this question, however, of the relative indication was one of such importance, deserving such careful consideration, that he would reserve it for a more elaborately prepared paper at a future date.

DR. JOSEPH PRICE read a paper on

#### THE ABUSE OF CESAREAN SECTION.

On the legitimacy of the Cesarean section there cannot be now, under certain restrictions and limitations, a question. In extreme cases, where hasty operation is necessary in order to save the life of the mother, where there is impaction, or where there is a tumor blocking up the uterine or the vaginal outlet, discussion or hesitation has little place, and he can operate best who has all resources at command and acts without hesitation.

The real points for discussion in the light necessity of the Cesarean section, in order to terminate a labor with greatest safety, first to the mother, then to the child, are, first, "*The degree of contraction in the pelvis*;" second, "*The advancement of pregnancy*;" third, "*The chances for the induction of premature labor*." As to the first: As an epitome of the latest generally received opinion, we have the statement of Greig Smith: "The operation [Cesarean section] is said to be justifiable when the contraction is

so great that we cannot expect to deliver the fetus *per naturales vias*, with or without embryotomy, and save the mother. The degree of contraction is generally stated as one and a half inches and below. But in cases in which much distortion exists, may have an upward limit of two inches."

Here then is a plain expression of conservative opinion as to the degree of deformity necessitating or justifying the operation. "As to the induction of premature labor," says Playfair, "there are few practitioners who would not deem it their duty to spare the mother the danger of the Cesarean section," this being especially true since "there is no amount of deformity, however great, in which we could not succeed in bringing on miscarriage by some of the numerous means at our disposal."

The time at which premature labor should be brought on varies, of course, with the degree of deformity of the pelvis; the tables of direction have been admirably constructed by Kiwisch. Briefly, the period for induction of labor lies between the thirtieth and thirty-sixth week, and the corresponding sacro-pubic diameters vary between two inches and six lines and three inches and five or six lines.

Here, then, naturally follows a discussion of the means for inducing premature labor. Of the many methods proposed at various times, the one seemingly the best is the use of the soft catheter. Its introduction well into the uterus, for a distance of six or seven inches, is an almost certain means of speedily producing labor pains safely.

I consider the British rule, that Cesarean section should never be an operation of election, but one of necessity, in general terms as the safeguard of puerperal woman. Once establish the precedent that the Cesarean section is an elective procedure in obstetrics and thereby lay down also the principle that abdomino-uterine section is a safer procedure than the introduction of a soft catheter into the uterus before full term, the way is laid open to every aspirant for obstetric fame who is the fortunate possessor of a knife, to find cases for his zeal at every court and corner in the city, if perchance he can of himself persuade the parturient woman of the necessity of delivery by "*the new natural method of delivery.*"

An axiom as to the operation is laid down by Lusk: "The precise limits at which the dangers of delivery through the pelvis rise to the level or exceed those from Cesarean section is not easy to determine. It depends greatly upon the size and ossification of the child's head, and largely upon the experience and dexterity of the operator." The converse of this proposition is true also. The greater the experience and the more careful the observation of the operator the less frequently will he be led to resort to Cesarean section, if he hold in mind that it is an operation of necessity, not of election.

Two cases will illustrate the dangers here referred to, and the justness of these forebodings.

*Case I.*—A woman already delivered of a living child, yet living at four years. Three other deliveries at term with the forceps. All of these children dead. No attempt at premature labor. In the fifth pregnancy, she is decided upon as a case for Cesarean section. She passes into the hands of another attendant, who, after careful pelvic measurements with a consultant, decides on premature labor. The woman delivers herself without instruments of a child whose head has a biparietal diameter of three and one-fourth inches, the period of gestation being eight and one-half months; the previous measurements of the pelvis having decided upon an antero-posterior diameter of three and one-half inches.

*Case II.* is an actual operation. A woman in third pregnancy, first child delivered after thirty hours' labor, with instruments, dying soon after birth. Second pregnancy: She delivers herself of a child of normal proportions *at full term, without instruments.* The child yet living. Third pregnancy: *Cesarean section.* Recovery after protracted convalescence. Child still living.

Here are lessons full of instruction. What do they teach?

DR. M. PRICE thought that the duration of labor had nothing to do with the choice of Cesarean section. He had delivered a woman two weeks since who had been in labor seven days. It was an occipito-posterior position, and the cervix did not dilate more than enough to permit the introduction of two fingers. He introduced his hand, dilated the os, and applied Simpson's forceps. The delivery occupied an hour and a half, but the woman made a good recovery. Had the case been delayed a few days longer, there might have been a necessity for Cesarean section. Where there is an inflammatory and edematous condition of the pelvis, he thought there should be some forcible measures adopted for the delivery of the patient.

DR. WM. GOODELL thought that the title of Dr. Price's paper was not a fortunate one, for the gentlemen who are called upon to perform Cesarean section are usually not the attending physicians, and they have had nothing to do with the previous medical attendance on the patient. He believed in the induction of premature labor, and would do it in preference to the performance of Cesarean section. But often the patient herself will not submit to the induction of labor. Dr. Price would probably admit, one day, into the "*Retreat*" an Irish woman who has had the most frightful labors, and who had persistently refused, from conscientious motives, to permit the induction of labor. He could conceive of cases where it would be better to perform Cesarean section, although he has never, as yet, done so. Probably in some of the cases in which he had formerly opened the head, he would now do the Cesarean section. He thought a woman might go on safely in labor for an indefinite time, so long as the bag of waters had not ruptured, with very little danger to herself.

DR. A. H. KELLY remarked that the bag of waters had ruptured

four days before the operation. The pains had been very hard before this time, and did not change in character afterwards, although the woman soon dropped into collapse. The pelvis was so choked by hard cellulitic mass that it would have been impossible to dilate anything or reach anything above the mass. The second paper evidently referred to his case performed on a relative indication in preference to craniotomy. That case he had not yet reported, reserving it for a full, careful discussion. Where any such garbled, distorted particulars had been hunted out, he did not know, nor could he reply to criticisms offered in such a tone. His profession was his life, and he came here to impart, and still more to receive, information in a spirit becoming the dignity of the profession, and he would not make life unhappy by taking part in any miserable bickering.

DR. J. PRICE said that, in a long experience in the obstetric department of the Philadelphia Dispensary, he had numerous cases of deformed pelves and illy-developed women, some of them very young. He would simply call attention to two typical cases: No. 1, a case in which Dr. Eliot Richardson had five times done craniotomy or complete evisceration. This woman applied in her sixth pregnancy to the Philadelphia Dispensary, and was assigned to Dr. Joseph Fox for induced labor—in a period of five years he had induced labor three times—in this case delivering by forceps, and saving two children, one still-born. Case No. 2. Also a Dispensary case, had in her five previous labors had the children destroyed; the sixth was provoked at eight months two weeks, and she was delivered with forceps of a fine, large male child. In a short experience at the Preston Retreat, he had dealt with two cases of greatly contracted pelves, in both of which Dr. Goodell had twice or thrice induced labor, delivering living children. Recently two cases were sent in for induced labor or Cesarean section. The consultants determined on the induction of labor. Both cases terminated favorably, with living children. One of these was a forceps delivery, the other normal. These are only typical cases, but few of the many he could cite in his own experience.

If Dr. Kelly was satisfied that the last case given in the paper was his second Cesarean section, he was sure he was welcome to his knowledge, as no one else would wish to lay claim to it.

DR. J. PRICE exhibited a specimen of a small male

FETUS, AT ABOUT THE THIRD MONTH, REMOVED FROM A CASE OF  
EXTRA-UTERINE PREGNANCY.

Patient healthy, and twice married. There had been numerous attacks of pain. Recovery from operation was rapid. The following week he did an abdominal section on a woman who was unconscious, and removed an extra-uterine pregnancy. She died twenty-six hours later. This was the sixth case of extra-uterine pregnancy which had developed in his practice in four weeks. One case he went into the country to operate, and found the patient dead when he arrived. Dr. Formad told him that this was a very common result in his experience as coroner's physician.

He also showed a

DERMOID CYST,

removed from a woman who had suffered from chronic peritonitis for years. Her physician had given her as much as a grain of morphia hypodermically, and had sat up all night etherizing her, to relieve her pain. She was greatly emaciated, with a rapid, feeble pulse, high temperature, and had been in bed for six weeks. Whole tumor enucleated; no ligatures required. Intestines separated and irrigated; glass drainage. This is the ninth day, and she is rapidly convalescing.

---

## TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

---

*Regular Meeting, Friday, June 29th, 1888.*

*The President, HENRY T. BYFORD, M.D., in the Chair.*

DR. DANIEL T. NELSON presented a

SARCOMA OF THE OVARY WITH HALF-TWISTED PEDICLE, REMOVED  
BY AUTOPSY.

He said: I have a specimen here, the interesting points of which will be brought out in the history. This was a post-mortem operation, but it demonstrates, I think, that sometimes surgical interference may be the better course when the patient's condition is nearly or quite hopeless. It is better for us at least to make an exploratory incision and arrive at a clearer diagnosis, that will possibly enable us to do something for the life of the patient, than to pursue an expectant course. It would seem as if this patient might have been saved had an operation been attempted early enough; probably she was not seen by any physician in regular attendance early enough to have insured her life by operation, still there will always be a doubt in regard to that.

I first saw the patient in consultation several days before she was taken to the hospital. She was a patient of Dr. J. E. De Wolf, of Englewood, whom I invited to be present to-night, but, unfortunately, he had a professional engagement. She was taken to the Woman's Hospital, but operation was delayed from one day to another, waiting for her to improve in condition, which she never did, and we have the tumor here by post-mortem removal. Her history is very scant, and yet some points in it are of interest, and will raise queries that I trust some of you will be able to answer.

Mrs. M. entered the Woman's Hospital June 7th, 1888; occupation, housewife for many years; age at puberty, twelve; age on entering the hospital, thirty-nine. She was born in America of



French and German parents, had been twice married: the first time seven months, the second time seventeen years. She was the mother of nine children, one by her first husband and eight by her second. After the birth of her last child, seven years ago, she did not menstruate for four years; since that time there have been irregular menstrual periods. It is so stated in the history, and yet I think we should rather say there were hemorrhages from the uterus during these past four years. One year ago she noticed a fluid discharge from the rectum. This is a nice question in pathology, to my mind. She gave evidence of some inflammatory process in the right ovarian region—tenderness, soreness, some elevation of temperature, was confined to bed for a time, and there was a sudden discharge of a considerable quantity of blood. Such quantities are never rightly estimated, but the amount was guessed at by the patient at more than a pint, and supposed by her to have passed from the rectum. Perhaps that was not correct; at all events, after that bloody discharge, she was relieved of the swelling, the tenderness, the inflammatory process, whatever it was, and resumed her ordinary duties. Some time afterward, but unfortunately the record does not say how soon afterward, she began to suffer from swelling in the same region, that continued up to her death. There was constant soreness in the right inguinal region; three months ago the abdomen began to enlarge and she to gain in flesh, strength, and vigor, so that her attending physician, without making a local examination, and especially her neighbors, supposed she was pregnant. She felt comparatively well until four weeks previous to entering the hospital, when she began to suffer severe pain, tenderness in the right inguinal region, and there was evidence of some kind of tumor. On going to bed with her last illness, about a week before she entered the hospital, her physician became satisfied that there was something more than pregnancy, that there was inflammation of some type. Some days before she entered the hospital I saw her in consultation, and advised a removal to the hospital in the hope that there might be some kind of an operation for her relief. On entering, her temperature was  $100\frac{2}{3}^{\circ}$  F., pulse 104. The following day the temperature was  $100\frac{4}{5}^{\circ}$  F., pulse 132; the following afternoon the pulse was 132, temperature  $100^{\circ}$  F. and a fraction. On the morning of the fourth day the temperature ran down to  $99\frac{1}{3}^{\circ}$  F., and the pulse to 119. Possibly an operation might have been performed then, and her life saved, but a more convenient and better time was sought for, that never came. There were the usual evidences of peritonitis, and death in the usual way followed. When she first entered the hospital her bowels were moved, but not afterward; vomiting came on the third day, but passed off on the fourth, when probably an operation could have been performed with the possibility of saving life. She died on the sixth day after entering the hospital, and a few hours after death a post-mortem examina-

tion was made and this tumor removed. The appearance is somewhat changed now, but yet it presents fairly well the appearance at the time of the autopsy. You notice the dark, venous, congested appearance of a portion of the tumor. This was the anterior portion as it presented against the abdominal wall, very slightly adherent; no adhesions from old inflammation, either to omentum or other structures, but a *half-twisted pedicle*. The pedicle has been tied in such a way as to retain that appearance as much as possible. Here we have the broad ligament that is simply half twisted and tied in that position on purpose. The evidence of completely twisted pedicle and death of the tumor were not present. There was simply an increase in size resulting from the congestion, but no sloughing, no death of the part—a slow, inflammatory process had taken place in the tumor and subsequently in the peritoneum, that was the cause of death. The obstruction of the bowels, I believe, was due to the peritonitis, and not to pressure from the tumor. It has not been my privilege to see a patient with a tumor and twisted pedicle, but it seems to me I could have recognized it; but this being only half-twisted, the circulation was impeded, not stopped. The tumor has been examined by Dr. Frank Carey, and the report is sarcoma. There was, so far as I saw, and I made a rather hurried examination, no evidence of the disease extending to other organs; there is no evidence of it in the pedicle; there was no evidence in the glands or intestines or other structures adjacent, so it seems as if it could have been entirely removed if the operation had been performed during the life of the patient. The uterus was a little enlarged, but no other evidence of disease about it. I made a diagnosis of malignant tumor, without being exactly certain as to its nature, but it seemed to me malignant on account of its rapid development and the age of the patient. I did not regard it as a uterine tumor, as the uterus was movable and the tumor seemed to be separate from it. Within the abdominal walls there was a considerable amount of ascitic fluid, so that the abdomen was very tense, and it was difficult to say whether or no the tumor could be moved readily within the abdominal walls. I was unable to say whether or no there were adhesions, but from the ascites I hoped not.

DR. ETHERIDGE.—The doctor said that if the pedicle had been completely twisted he could have determined it. I would like to ask how?

DR. NELSON.—The evidences of acute inflammation would have been much more rapid and severe, also the appearance of shock. In other words, the patient would be something in the condition of one with an internal hemorrhage, there would be evidence of greater disturbance that would come on suddenly after exercise, while in this case there was no sudden beginning of the evidence of inflammation, it came on gradually.

DR. ETHERIDGE.—Did you diagnose a solid tumor?

DR. NELSON.—It seemed to me that it was; there was considerable fluctuation and ascitic fluid, but it seemed to me a solid tu-

mor, and that was my reason, together with the age of the patient, for believing that it was malignant. I supposed it was carcinoma and not sarcoma. I would like to ask whether that hemorrhage, indefinitely described as from the rectum, could by any possibility have been the result of a congested condition of the tumor that was freed by an opening through the Fallopian tube, the pedicle having been untwisted, and whether the attack a year or more ago was similar to the one she died of, only the pedicle was more twisted this time, so nature could not relieve herself in this way.

DR. ETHERIDGE.—Was the rectum examined?

DR. NELSON.—It was not.

DR. FENGER.—Dr. Nelson remarked that there was some ascites.

DR. NELSON.—Yes, sir.

DR. FENGER.—As a rule, under other circumstances, malignant tumors have as one of their main characteristics invasion of the surrounding tissues and, consequently, adhesion and inflammation enough to bind the tumor to the surrounding organs. But we know that, in sarcomas or carcinomas of the ovary, it is common to find, as in this case, no adhesions. This fact is probably explained by the early setting in of ascites, as we know that the presence of fluid, ascitic fluid, saline solution, etc., in the abdominal cavity, helps to prevent adhesive inflammation by keeping the tumor away from the loops of intestine.

DR. HENRY T. BYFORD.—I examined the patient once, in life, and was present at the post-mortem examination. I satisfied myself that the tumor was not connected with the uterus, for, although pressing upon the tumor moved the uterus, yet lifting the tumor did not. The course of the disease appears to have been, first, the twisting of the pedicle, then venous congestion, bursting of small blood-vessels, rapid distention and inflammation of the tumor, especially upon the side that we now see to be black. The case was not one of ordinary peritonitis; there was not much tenderness, except when the tumor was directly pressed upon. Intermitting attacks of partial obstruction of the bowels, due, undoubtedly, to the presence of this heavy tumor, hastened her death.

DR. CHRISTIAN FENGER presented the following specimens:

#### FIBRO-CYSTO-SARCOMA OF THE UTERUS.

This specimen was removed by laparotomy from a woman of 35, that had a tumor the size of a child's head, immovably connected with the uterus at the fundus, and also two small myomas that could be felt through the vagina. The large tumor showed fluctuating places on the surface, by palpation through the abdominal wall, and I concluded that it was an ovarian cystoma, either located in the broad ligament or sufficiently adherent to the uterus to make them move together. At the operation I found it to be a cysto-fibroma, or fibro-cysto-sarcoma, subperitoneal, but attached by the broad base to the uterus at the fundus. After temporary elastic constriction around the cervix, the tumors were enucleated, and as the uterine cavity was not opened, I united the wound of the wall of the uterus with buried step sutures, deep and

superficial, and a final continuous suture along the inverted borders of the peritoneum.

At the close of the operation, all hemorrhage had apparently stopped, consequently I did not drain. In the course of the first week, some fever set in, and on the tenth day, I reopened the lower border of the wound and evacuated about three to four ounces of blood mixed with pus, from a cavity surrounding the body of the uterus. The evacuation and subsequent washing out and drainage did not have much influence on the patient's condition; the fever continued, she had a large gangrenous bed-sore over the os sacrum and died six days later, in the third week after the operation. The autopsy showed no peritonitis, and the cavity with the accumulation of blood and pus was found entirely separate from the general peritoneal cavity. On examining the uterus, I found, as you see here, surrounding the line of the uterine wound, an island of gangrenous tissue including the wound and a square inch or more to each side. This gangrene explains the persistence of fever and sepsis, notwithstanding the evacuation and drainage.

The large tumor has, you see, a smooth surface. On the cut surface in some parts, there was an appearance of myoma, in other places, islands of softer tissue looking like myxoma or sarcoma, and in other parts, cystic cavities. These cysts have not the usual shape and appearance of cystomas, but are irregular, triangular, or longitudinal sinuses, the walls of which are not smooth but trabeculated, so as to give the appearance, as Dupuytren describes it, "similar to the walls of the ventricles of the heart."

I shall here make a few remarks on fibro-cystomata of the uterus, because they are comparatively rare, the whole number described in the literature not being much above one hundred. Fibro-cystomata are, as the name indicates, forms of fibromata or myomata, and it is a comparatively rare change in the pre-existing elements of these tumors that gives them the additional characteristics of cystomata.

We distinguish between the following varieties: myxo-myoma, as described by Virchow, characterized by edema of the interstitial tissue, and by the fluid in the spaces containing mucin; consequently it is something more than a simple edema of the myoma. Spread islands of embryonal cells are also proof of a more active process, terminating in myxomatous or even sarcomatous tissue. Besides the edema in the interstitial tissue of the myoma, we find edema and atrophy of the muscular fibres, isolated fibres or their debris mixed with the fluid in the cavities. These cavities are of all sizes, from the microscopic, as shown on this slide, up to the size of a pin's head or walnut, and we even find cavities of enormous size containing several quarts of fluid. The cavities are lined with pavement-celled epithelium or rather endothelium, as you would expect, since they originate from dilated lymph spaces.

or naked when the cavity is formed by the disintegration of muscular fibres. The cavities contain clear, colorless, or bloody fluid that often coagulates spontaneously when evacuated—a fact that Atlee pointed out as a differential diagnostic sign in contradistinction to the fluid from ovarian cystomas. A special form is described as fibro-myoma lymphangiectodes, by Leopold. Distinctly different from this is the myoma teleangiectodes sive cavernosum of Virchow, with multiple cavities from the size of a millet-seed to that of a pea, communicating with the blood-vessels and consequently containing pure blood. These tumors are found to enlarge during menstruation (Virchow) and on auscultation a bruit is heard (Péan).

As to the place of development, the great majority are subperitoneal. Of the 70 cases gathered from the literature by Heer, 63 were subserous, 5 interstitial and only two submucous tumors. They sometimes attain an enormous size, weighing 29, 40 and in one instance even 81 pounds.

The cysto-fibromata are most often found between the ages of thirty and fifty. The symptoms are in the main, of course, the same as those of common myomata and fibromata. Uterine hemorrhage is rare because, as before mentioned, they rarely develop close to the mucous membrane. A more characteristic symptom is a sudden enlargement, probably from acute increase in the size of the cysts or from intracystic hemorrhage. The spontaneous coagulation of the fluid would be a valuable symptom if it was constantly found, but in about seventy cases it was noted in only eleven (Heer). It might, however, in reality be more frequent, since in a number of cases it might not have been noticed (Gusserow). The lack of vitality shown by the tendency to local gangrene is also somewhat characteristic of these tumors. Thus Grammaticati, as stated by Gusserow, saw a myoma the size of a child's head, located in the wall of the cervix, undergo superficial necrosis, followed by sepsis and death.

It is rather noteworthy that a correct diagnosis was rarely made. They were almost always taken for ovarian cystomas, and a number of them were punctured. Puncture, however, in this form of cystoma is far more dangerous than in other cystomas, as shown by Leopold, who found that, as a consequence of puncture, ten patients out of eleven died. McGuire, therefore, is right in asserting that exploratory laparotomy is less dangerous than puncture.

The treatment should be early extirpation, because of the probability of rapid enlargement, the danger of puncture, the liability to gangrenous or septic changes, and thrombosis of the vessels in and around the tumor. Gusserow gives a series of 41 laparatomies with 22 recoveries, the cause of the high mortality being the necessity of the removal of the uterus in some of the cases. Occasionally the operation cannot be finished; thus, according to



Gusserow, in 38 cases, 7 were unfinished, and of the 7, 6 patients died. That an exact diagnosis, with a definite premeditated plan of operation, is of extreme importance, is shown by Gusserow, who out of 11 cases described in the literature, reported 9 recoveries.

A few words about uterine sarcomata, inasmuch as the tumor here presented is a mixed form of cysto-fibroma and sarcoma. In the uterus we distinguish between circumscribed and diffuse sarcomas, the former originating in the muscular wall of the uterus, the latter in the mucous membrane. The circumscribed uterine sarcomas are of the most interest to us in this connection, as they stand in near relationship to fibro-myomas and fibro-cystomas. They form, usually, round, circumscribed, harder or softer tumors, looking like, and developing in the same places as the fibro-myomas, and so similar to these that we must class the relapsing fibromas of Paget among the sarcomas. But besides more or less typical fibrous or muscular cells, here we find islands of short, spindle-shaped, round or polymorphous cells, or islands of myxoma tissue; in general, a more vivid cell-formation than in fibromas and myomas; and we further find in the same tumor in different places different forms of cells. So predominating, however, are fibroma or myoma tissue cells that Schröder regards it as a law that the circumscribed sarcomas are always formed by transformation of fibromas. According to Gusserow, the transformation of fibromas into the mixed form of fibro-sarcomas, myxo-sarcomas, and cysto-sarcomas is so rare that the literature shows very few well-observed cases of this kind. By examining the microscopic slides that I exhibit to-night, we find, in some portions, apparently typical myo-fibroma tissue, without or with dilated lymph spaces, in which we find granulated matter containing loose or isolated muscular cells; in other places, islands of typical myxoma tissue, here and there islands of embryonal cells; in another part of the tumor, territories of short, spindle-shaped cells, large and with oval or round nuclei; in other words, islands of unmistakable sarcoma tissue; and finally, places of common typical, round-celled sarcoma tissue.

As to the age in which fibro-sarcomas of the uterus are found, there is this difference from the cysto-fibromas that, although they both are most common between the ages of thirty and fifty, the sarcomas are still common between fifty and sixty, while the cysto-fibromas, as we have seen, stop at the age of fifty.

As regards treatment, the sarcoma is a malignant tumor and needs more extensive removal or radical treatment than the benignant cysto-fibroma. The removal of subserous or interstitial fibro-sarcomas by abdominal supravaginal extirpation and extra-peritoneal treatment has often been followed by a growth of sarcomatous tissue in the cicatrix in the abdominal wall. The abdominal total extirpation of the uterus can hardly be said to have lost much of its dreadful mortality of about seventy per cent, from the time of Freund's first operation till now.



In the treatment of this case, the following suggestion occurred to me—a suggestion which was not carried out because of the patient's death. I should operate as I did, enucleating the subserous tumor, and if the uterine cavity was not opened, try intraperitoneal treatment of the stump. After recovery from this operation, if the microscopic examination of the tumor proved it to be a fibro-sarcoma, I should follow, as soon as the patient's strength would permit, by vaginal extirpation. In the rare cases in which the size of a diagnosed circumscribed uterine sarcoma or fibro-cystoma will permit of vaginal extirpation, this operation is, of course, the only one indicated.

DR. ETHERIDGE.—I would like to ask Dr. Fenger if he thinks that, if he had drained the first case, he would have saved her from any gangrenous affection?

DR. FENGER.—That is possible.

DR. ETHERIDGE.—I would like to ask Dr. Fenger why he did not do vaginal hysterectomy.

DR. FENGER.—Because the tumor was too large.

DR. ETHERIDGE.—If you had a similar case, would you not, after liberating the tumor through the abdomen, make a vaginal hysterectomy?

DR. FENGER.—No; not at the same time, because I think that is dangerous—too much operating.

DR. ETHERIDGE.—It seems to me that the combination of the two in an operation, if not prolonged too much, increases the chances of the patient to live. You would have magnificent drainage that way.

DR. FENGER.—Is not that a combination of abdominal and vaginal hysterectomy?

DR. ETHERIDGE.—Well, cases get well after hysterectomy, even where the abdomen is opened.

DR. FENGER.—That is Freund's operation.

DR. ETHERIDGE.—Freund's and Schroeder's.

DR. FENGER.—What is the difference; is it not the combination of laparotomy and vaginal hysterectomy that brings the mortality up above sixty per cent?

DR. ETHERIDGE.—Have the two been done enough to make such a mortality as that; have enough cases been recorded to say that there is a mortality of sixty per cent?

DR. FENGER.—What is the difference between that and Freund's operation?

DR. ETHERIDGE.—You have better drainage than in Freund's operation.

DR. FENGER.—From what I think now I would be afraid of that combination.

DR. ETHERIDGE.—I have often thought if I should have a case of tumor of the uterus to remove and the adhesions were not enough in the pelvis to fix the cervix immovably, I should make the operation through the abdomen of removing the tumor, put an elastic ligature down as far as possible, then immediately remove the cervix by vaginal hysterectomy, depending upon the forceps for control of the hemorrhage. In that way we could get a magnificent drainage through the vagina.

DR. FENGER.—Time would first have to show if such a combination as that would bring Freund's mortality down.

DR. ETHERIDGE.—I believe a great many cases of fatal termination of supra-vaginal amputation of the uterus are from lack of drainage, and if after the amputation the balance can be taken out through the vagina, then we can close the abdomen and have the drainage through the vagina. Of course, that could not be done if there were universal adhesions through the pelvis.

DR. FENGER.—Frank, of Cologne, who was criticised so much about his ten cases of enucleation, believed that he could peel off the uterus and leave the peritoneum. If that can be done in all cases, which I consider impossible, it can be done much more easily when there are adhesions all around the uterus. In fact, one of Czerny's first operations for uterine sarcoma was done in that way—vaginal enucleation without opening into the peritoneal cavity.

THE PRESIDENT.—I intended to exhibit, for Dr. William H. Byford, a uterine cysto-myoma possessing all the characteristics of the one just presented by Dr. Fenger, but found to-day that the specimen had been allowed to spoil. It was pedunculated, slightly adherent in places, trabeculated within, and quite full of collections of serum that coagulated upon exposure to the air. The patient was operated upon two weeks ago and is passing through a rapid and easy convalescence. The pedicle was treated extra-peritoneally, and the abdominal cavity closed without drainage.

THE PRESIDENT exhibited

A SUBSEROUS FIBRO-MYOMA OF THE CERVIX UTERI AND AN OVARIAN CYST.

I have here a subserous fibro-myoma of the cervix uteri and an ovarian cyst which were removed three weeks ago from the same patient by vaginal section. I made first an exploratory incision in the recto-uterine cul-de-sac, and got behind the tumor, but could not get over it into the free peritoneal cavity. I then separated the uterus from the bladder, reached over the fundus, and ascertained the relation of the parts. I then pulled down the cervix and ligated the broad ligaments, from below upwards. The capsule of the tumor was covered by a thin layer of peritoneum, except where it was imbedded in the cervical walls.

The interesting point was the size of the tumor, its relations, and the apparent impossibility of getting it out without taking the whole uterus. Although the operation was difficult, its severity did not seem great, for the patient is getting along very much the same as after a normal confinement.

DERMOID CYSTS OF THE OVARY.

I have here a dermoid tumor consisting of two cysts removed five weeks ago. The tumor was about the size of a child's head and filled with chocolate-colored fluid and hairs. Some of the fluid escaped and flowed into the peritoneal wound. The peritoneal cavity was flushed with water and drained. The recovery was the same as a favorable case of oöphorectomy. The other ovary had undergone cystic degeneration.

## SPECIMEN FROM TAIT'S OPERATION.

Here are four ovaries showing different stages of cystic degeneration. This pair was removed from a young girl who had been treated without benefit for the last three years. She was steadily losing ground. The diagnosis was ovaritis. They were removed about nine days ago.

Here is a pair removed four days ago. They commence to show the appearance of some of the larger tumors. The patient has been an invalid for seven years and was supposed to be losing her mind. Both are doing well.

DR. ETHERIDGE.—In performing vaginal section, did you draw the fundus forward?

DR. BYFORD:—I did, in order to reach over it for the purpose of exploration; but I then released it, drew down the cervix, and ligated the broad ligaments from the base up. I prefer ligatures, because they allow the parts to go back to their natural position.

DR. ETHERIDGE.—How long does it take to complete the operation when ligatures are used?

DR. BYFORD.—It took me a little over two hours, including the preliminary disinfection and dilatation of the vaginal orifice and the dressings afterward. I do not time my operations, but suppose it took me between twenty and thirty minutes to tie the broad ligaments and cut out the uterus. The causes of delay in this case were the almost complete obstruction of the vagina by the tumor so as to prevent easy access to the broad ligaments, and also the natural rigidity and narrowness of the vagina in a virgin of forty-two. But as I perform the operation, time is not an important factor—it is even less so than in cases of trachelorrhaphy or perineorrhaphy, in which hemorrhage is more abundant. The cases get along as well after hysterectomies lasting two hours as those lasting one hour.

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF CINCINNATI.

*April 12th, 1888, and June 21st, 1888.*

*The President, DR. GILES S. MITCHELL, in the Chair.*

### LARGE VESICAL CALCULUS IN A YOUNG GIRL—OPERATION.

DR. THAD. A. REAMY exhibited a stone one and one-quarter inches wide, one and three-quarter long, weighing three hundred and sixty-five grains, which he had removed in December last from the bladder of a girl 7 years old, by vaginal lithotomy.

Positive diagnosis had not been made until two months before operation. It was made by the family physicians, Drs. Thompson and Hannah, of Henderson, Ky. The child had suffered of vesical irritation for more than two years, and had been at one time under the immediate charge of Dr. Reamy. He had sounded the bladder several times with the utmost care, but with

negative results. He thought it possible that the success of the family physicians was due to the growth of the stone since his own examination (which was made about two years ago), but he would rather attribute the difference in success to superior tact on their part.

Had to cut perineum some in removing stone, but wound in same united by first intention. Wound in bladder was not stitched. An examination recently made shows a vesico-vaginal fistula nearly half an inch in length. Healthy appearance, except that there is some eversion of bladder edges. Bladder sphincter and urethra are not damaged. Will operate for closure within few days. Owing to youth of the subject, consequent smallness of bladder and vagina, extraction was difficult, and the texture of the stone made crushing impossible. There was nothing to indicate the size of the stone. If speaker had known it was so large before operation was commenced, he would probably have made the supra-pubic operation. He had dilated urethra until he could pass his little finger, hoping to extract, but, of course, could not. No paralysis of sphincter had followed dilatation, much to his gratification, for he had feared it.

DR. JAS. G. HYNDMAN thought it a great pity that the average surgeon was so fearful of mutilating his specimens that he refused to permit sections to be made and their chemical composition accurately determined. From all appearances the one just presented consists of urates. The urate of sodium is the form in which these salts are very apt to be precipitated during the febrile attacks so common to childhood. The sharp spiculæ of these crystals are very apt to produce vesical irritation and to become the nuclei of calculi.

Having determined the nature of a calculus in the bladder (and this can be done quite readily), it is not always necessary to resort at once to surgical procedures. Calculi composed of uric acid and its salts can be rapidly dissolved by the internal administration of alkaline carbonates, or the vegetable salts of the alkali metals. Excellent results have followed this plan of treatment, more particularly in the practice of Dr. Roberts, of Manchester, England, who reports numerous instances successfully treated. With such results to guide us, the speaker thought the solvent treatment should be given a fair trial before subjecting the sufferer from uric acid calculi to the dangers of surgical removal.

DR. W. H. TAYLOR related an instance where a woman came to him with a peculiarly shaped calculus, long and slender and rounded at the ends, which was said to have been accidentally dropped from the bladder. The history given was that the patient had had no previous symptoms to indicate the presence of stone until one morning she had dysuria for a few hours, when it suddenly fell from her on the floor. The speaker at first did not credit the statement, and asked to see the specimen, which was composed of urates, was covered with recent blood, and had the peculiar shape above mentioned, showing that it probably was formed in one of the ureters.

DR. STANTON remarked that he had twice witnessed an operation for stone in the bladder of children, both operations having

been performed by the elder Dr. Mussey. The younger child was a boy four years of age, who had a stone larger than the one presented, but of a shape rendering extraction easier; the other child was a girl six years of age with a smaller stone, which was removed through the vagina.

DR. TRUSH was somewhat surprised that the stone was not discovered sooner. He would like to know if, perhaps, it was encysted to such an extent that it could not be detected.

In reference to the question of immediate or subsequent closure of the fistula, he was of the opinion that it would be better in most instances to allow it to remain open on account of the thickening of the wall of the bladder.

DR. PALMER agreed with the reporter of the case as to the variety of vesical calculi in the female. In his own practice he had not as yet encountered one which required opening the bladder, or which could not be removed by the urethra. It is not improbable that the causes leading to gravel formation are less active in the female than the male, aside from the anatomical situation and length and shape of urethra in her.

The speaker had opened the bladder quite a number of times per vaginam for various causes, exploratory and for treatment, and he doubted the propriety of the supra-pubic operation in the female even in as young a subject as reported. The danger must be greater. If the vaginal incision is high enough to escape the vesical sphincter and is kept in the central line to clear the openings of the ureters, the operation is almost free from danger, whether the opening is allowed to remain or is closed at the time. In reference to this last-mentioned step, that method is adopted which is suited to the condition of the bladder at the time of the operation. If the bladder has been much inflamed and is in consequence thickened, the fistulous opening should not be closed until months after when the bladder has recovered itself.

DR. REAMY replied to Dr. Trush that he supposed the small size of the stone at the time of his former examination, and possibly the fact that it was encysted, might excuse his failure to find the stone two years ago. And then possibly at that time there was no stone, notwithstanding the clinical symptoms present. In reply to the criticism of his proposition to have made a supra-pubic operation, Dr. Reamy would call attention to the difficulties and dangers in removing so large a stone per vaginam from so small a child. He would regard the supra-pubic operation in such a subject, with so large a stone, as safer and certainly much less difficult.

Of course, he would not make supra-pubic lithotomy in a woman in an ordinary case, though he would remind the gentlemen that supra pubic lithotomy is rapidly being revived for men, and with good results.

Speaker had removed stone from female bladder by vaginal lithotomy in three other cases only, but had often extracted through the urethra.

DR. CLEVELAND remarked that he once extracted a calculus formed upon a slate pencil introduced into the bladder. Lately he assisted Dr. Geo. Cermer, of this city, in removing a seatangle tent from the bladder. The patient had endeavored to induce an abortion and accidentally passed the tent into the urethra instead of into the cervix. He once dilated the urethra of a child six years of age and extracted a soft stone which broke readily.

DR. REED thought that these incrustations sometimes form very rapidly. He once had considerable trouble in removing a Skene self-retaining catheter on the third day on account of the large deposit of calcareous matter around it.

DR. TAYLOR said he had the same experience very recently with a catheter retained in the bladder for twenty-four hours. He therefore left it out and allowed the urethra to remain free.

The speaker added that, if he had known the size of the calculus, he would have preferred the supra-pubic operation, as the vagina in so small a child is too narrow to permit manipulation necessary for the extraction of a large stone.

He further remarked that stone in the bladder was a rare affection in women as compared with men, the proportion being about twenty per cent of the former to eighty in the latter. Besides several small calculi extracted through the urethra of women, this was the fifth time he had made a cutting operation for this purpose in the female sex, and the first time that he had operated on so small a child.

DR. WENNING said that the remark had been repeatedly made that vesical calculi in the female are rare. He was of the opinion that, though rarer than in the male sex, in the female the shortness and dilatability of the urethral canal may frequently allow the passage of the stone spontaneously, and hence these cases escape the observation of medical men. Personally it was a matter of interest to him that the very first operation performed by him upon a woman was the extraction of a conical calculus through the urethra of a lady about forty years of age. This patient had been similarly operated upon by Dr. Larrabee, of Louisville, a few years previous.

DR. RUFUS B. HALL reported a case of

LAPARATOMY FOR REMOVAL OF THE UTERINE APPENDAGES FOR THE RELIEF OF PELVIC PAIN AND RECURRENT ATTACKS OF PELVIC INFLAMMATION.

I was consulted on the 21st of March, 1888, by Mrs. J—, 31 years old. Menstruation commenced at the age of fourteen; the flow continued from five to seven days, and was profuse, with but little, if any, pain for the first three or four years of menstrual life. But it was always accompanied by more or less nervousness and constitutional disturbance.

At this time, she probably had hyperemia of the ovaries, which was without doubt the starting point of all her suffering. She married at the age of eighteen, and from this time forward her health commenced to fail, quite gradually at first, but at each menstrual period she was conscious of the fact that she was growing weaker and more nervous than the month previous. She continued to grow worse for about one year after the date of her marriage, when she had an attack of what was then pronounced to be inflammation of the womb and bowels, but which I doubt not was an attack of so-called pelvic cellulitis and pelvic peritonitis, and probably at that time the hyperemia of the ovaries developed into acute ovaritis, which ever after was the source of so much suffering to her. After she got up from this attack, she



never fully recovered, and ever after had a dull, aching pain in the back, with what she described as a burning pain over the seat of the tubes and ovaries, with a dragging sensation in the lower part of the abdomen, which was accompanied by a pain in standing or walking. These uncomfortable sensations varied greatly; at times they would almost disappear for a few days to return as bad as before. She now noticed after this illness that sexual intercourse was painful, and the pelvic pain was worse for several days after it. What influence marital relation had in aggravating her condition cannot be stated with any degree of certainty, but from the history it is evident that it was the cause of not a little suffering in the following years. She remained much the same for the following two years; she was able to be up almost daily, but was compelled to occupy the lounge several hours every day on account of the pain, which was relieved if she would lie down. Two years after her first illness, she had a relapse, and was able to leave her room but little for a period of about six months on account of the pelvic pain, which was always aggravated by any exertion. Intercourse caused so much pain that it was endured only as a matter of duty. The pain was described as a bearing-down, straining sensation, which would continue for days after each act, and invariably caused her to suffer worse. It was this intense suffering and aggravation of her condition from this cause that induced her husband to bring her to Cincinnati in 1878 to consult a physician that had been highly recommended to him by a friend. He did not consult with his family physician in reference to the proposed change, and, as a consequence, fell into the hands of an irregular practitioner. She received no benefit from a course of treatment extending over a period of six weeks. By this time, they had learned something of the reputation of the physician, and left him. She was a nervous and timid little woman, and objected to going to another physician because she did not want to submit to another examination. She went home discouraged, fully determined not to employ a physician at all, for she could not tell that the treatment benefited her in the least. From this time she grew worse, and a few weeks later went to Columbus, Ohio, to be treated by a prominent physician, who said that she had retroflexion. She remained there about five months, and improved from the first in her general health, and her strength returned to a marked degree; she gained flesh, and felt much better than she had for more than two years. But the pain in the pelvis and abdomen yet remained, not so severe as before, but she was never without it, and any exercise like walking or going up or down stairs would aggravate it very much. She returned to her home to continue a tonic course of treatment, but she found that intercourse was as painful as before, and all the old pain returned and continued for days after it. She remained at home for two months, when she was as bad

as before the treatment. She was now induced to try another Columbus physician of note. He treated her for about one year. During the treatment she remained much of the time in Columbus, apart from her husband, and did improve in many respects, and some of this time was quite comfortable. She had learned long before this that, while living away from her husband, she suffered very much less than when living with him. Therefore she could not determine whether it was the treatment that benefited her or the fact that she was living apart from her husband; but she was inclined to the latter, from the fact that what she suffered most from was the painful intercourse and the pain which it caused. She continued much the same from this time until 1884.

During these years she was from time to time attended by various physicians and had various kind of treatment, but nothing seemed to help her or give her more than temporary relief. She had now become completely discouraged, and given up all hope of ever getting any permanent relief. Finding that she suffered less, and the relapses were not so frequent when living apart from her husband, she now determined to go and spend a year with friends away from him, with the hope that she might recover. After this time had expired, she was not willing to again submit to the torture that married life entailed upon her; and a final separation took place.

For the following two years she lived a very quiet and secluded life; during this time she improved in every way and suffered but little pain, except for ten days during her menstrual period.

Two years after the separation, she decided to complete her education, and entered one of the leading female colleges in 1886, with this object in view. Here she was compelled to go up and down many flights of stairs daily; this and her studies was more than she could endure, made evident by the fact that the pain in the pelvis was aggravated and was increasing in severity. From September, 1887, she grew worse rapidly, and by November she was compelled to go home on account of the pelvic and abdominal pain, which was now continuous since the first of September. The pain remained the same if she remained quiet or moved about, growing worse and worse until after being operated upon. When she consulted me in March of the present year, there was a mass behind the uterus in Douglas' cul-de-sac, the size of a small orange; extending to the right side, it pushed forward the posterior vaginal wall an inch to an inch and a half. It was extremely sensitive to the least pressure. She complained of great pain during the examination, and said that the cause of all of her suffering was located in the pelvis. The uterus was somewhat fixed, but not retroflexed. It was impossible to say with any degree of certainty what the mass behind the uterus was, but that it was a distended tube or an adherent ovary was quite probable, and that

this mass was the seat of her pelvic pain and all her suffering. I was convinced, and advised an operation for the removal of it. She took the matter under advisement for ten or twelve days, when she decided to have the operation made. She was put upon a tonic course of treatment, to improve her general health preparatory to the operation. April 28th she was admitted to my "Home" to have the operation made, which was done April 30th, with the assistance of Drs. Van Meter and Ricketts, of this city, and Dr. Hall, of Springfield, Ohio. On opening the abdominal cavity, I found the pelvic organs matted together by firm adhesions. I first succeeded in recognizing the uterus, and then the mass behind it, which proved to be the right ovary: it was very firmly adherent, and was separated with some difficulty; the tube was also bound down by adhesions and was removed with the ovary, which was somewhat enlarged, and contained an abscess; the contents were thick, grumous material, involving about one-third of its structure, and apparently just on the point of rupture. The left ovary and tube were found bound down by adhesions and in a state of chronic disease, and were removed. I have but little doubt that this patient had prolapsus of the ovary at the time she developed acute ovaritis in her first illness, and from the inflammation following that illness the ovary became adherent in the cul-de-sac. The acute ovaritis finally became chronic, and sexual intercourse necessarily inflicted injury upon the tender and sensitive ovary that caused her the great suffering for so many years. The case was probably one of chronic ovaritis with salpingitis until the last relapse early in September, 1887, and after that the abscess of the ovary developed. She recovered rapidly after the operation; she never had a bad symptom, and was able to leave the bed on the thirteenth day, and to go down-stairs on the twenty-first day. She returned to her home on the twenty-sixth day after the operation, perfectly relieved from her pelvic and abdominal pain. She said to me, in answer to questions, that her sufferings caused by intercourse during any given three weeks after her first illness, while living with her husband, was incomparably greater than it was the first three weeks following the operation.

*Remarks.*—In many of the text books on diseases of women long chapters are devoted to the subject of the displacement of the uterus and pelvic cellulitis which are discussed with great care and the most trifling detail is dwelt upon and elaborated to the fullest extent; while the more important subject of inflammatory diseases of the Fallopian tubes and ovaries have been treated of as of but little importance. While it is true that a small number of the most recent works devote a short chapter to this subject, most of them dismiss it with a few words. Yet some of the German authors give minute and clear description of the pathological anatomy of the tubes, showing that they already realize that it is

a subject worthy of their careful consideration. The local conditions and symptoms, the result of inflammation of the uterine appendages, in many cases, were formerly believed to be due to cellulitis and displacement of the uterus. More especially was this true in what was described as recurrent attacks of pelvic cellulitis. Yet in not a few of these cases it has been found at the operation for the removal of the diseased structures that the tubes, ovaries, broad ligament, and intestine are soldered into one single mass, and not infrequently the tube contains pus. The pain in these cases is due to the pathological condition actually present, and while this remains unrelieved, it is obvious that relief can only be temporary. The marked relief following an operation for the removal of the diseased structures and the careful breaking down of the intestinal adhesions is one of the triumphs of abdominal surgery, and is proof positive of the justifiability of the operation, if nothing more could be added. The well-known views of recent pathological investigators indicate in plain terms that we are now on the borderland, so to speak, of a reform in our views of the pathology of pelvic cellulitis, and the developments promise to change the general accepted ideas, at no distant day, concerning the causes of pelvic inflammation. With judicious treatment and rest, mild cases of salpingitis may get well or their condition be made bearable, but if the disease is caused by septic infection, the prognosis is very unfavorable, and if the ends of the tubes are blocked and contain muco-pus or pus, removal gives the only chance of permanent relief. Therefore in every case of true and persistent salpingitis that has resisted all other known modes of treatment, an operation is indicated. I need scarcely say that there must be danger to life or serious impairment to health before an operation is contemplated. This step is to be taken only after twelve or eighteen months of careful treatment and everything else has failed to furnish relief. The question, "does this operation destroy the sexual desire of a woman," has been worn threadbare by the many discussions upon it, and has been dragged hither and thither between the two factions of operating surgeons and the armchair theorist, but the question has been settled long ago, so far as all practical purposes are concerned. Practical men care but little for theory, when it conflicts with the results of observation; what they want is to cure their patients. And if it is granted that there is one in a great number that has partial or complete loss of sexual feeling, is not this a *petty* and *contemptible* thing to be weighed against prolonged and constant *suffering*? Again, if the argument has any weight against the operation for inflammatory diseases, why should it not have the same weight against the operation for large cystic tumors, when the same anatomical structures are removed in one operation as in the other? Again, it must not be forgotten that there is real danger to life in these cases, and while we are

considering the question of destroying the sexual feeling of the patient, the other and more important question, of the patient losing her life from complications, by the delay of the operation, must be borne in mind. The change in the subject is no more marked after this than after the McDowell operation, and the disease requiring it calls for surgical interference just as urgently as does the existence of a large tumor. In all the cases in which I have been called upon to make the operation, the patients were, like the one reported to-night, practically unsexed by their disease, and instead of unsexing them it has reinstated them in their sexual functions. To refuse to perform an operation for this reason would be as correct and just, and no more so, than it would be to refuse to remove a fifty-pound ovarian tumor for the same reason. What would we think of a surgeon who would refuse to remove a tumor on that account? It would be about on a par with the surgeon who would refuse to amputate a man's leg that had been crushed by a railroad locomotive passing over it, for the reason that he could not walk so well or dance so gracefully after as before the amputation.

Now, gentlemen, I ask in all candor what is the sense of all this sentimental talk so freely indulged in upon this subject? No man who is worthy of the name of a physician would make an operation that involved danger to life, until in his judgment nothing else remained to be done that procured any relief from constant suffering and danger. When nothing but the operation remains to be done, it is a duty we owe to our patients to give them the benefit of it.

DR. W. H. WENNING reported a case of

ENORMOUS SARCOMA IMPLICATING BOTH OVARIES AND ONE TUBE IN  
A YOUNG GIRL.

Miss Kate M., aged 17, single, dressmaker, was first seen by me on May 7th, 1888, in consultation with Dr. Bernard Mosenmeier, who was attending the patient for her present illness since the middle of April. The history given was a gradual enlargement of the abdominal region in the last few months, accompanied in the last few weeks by regular attacks of nausea and vomiting in the evening. Menstruation, however, had always remained normal, both as to time and quantity, a statement confirmed by the mother. The patient also stoutly denied ever having had any sexual intercourse. At a subsequent interview, the patient, however, admitted having had sexual intercourse about nine months ago, but had never ceased menstruating since that period nor ever observed any abdominal enlargement in the early part of April. She stated also that she had similar attacks of vomiting about one year ago, these attacks recurring every morning. They lasted a few months, but gradually disappeared without treatment until they came on again early in the spring of this year, when Dr. M.



was called in. During all this time the menstrual function had been normal. There was no history of hemorrhage. As I had been summoned to determine the existence of pregnancy, as rumors of this possibility had spread about, I made a careful bimanual examination. The enlargement of the abdomen was at once apparent, but was greater than would correspond to a pregnancy at this period : three or four months. It was, moreover, hard and inelastic and irregular in outline. Taking its origin in the median line from the pelvic cavity, the enlarged mass extended towards the right iliac region, thence upward towards the umbilical region with a depression at this point, to about one inch below the umbilicus, it ascended abruptly into left hypochondriac region which it completely filled. The tumor, therefore, occupied the entire abdominal cavity with the exception of the right hypochondriac, gastric, and part of the umbilical region. Per vaginam a hard solid mass could also be detected in the anterior fornix and both sides of the uterus, which itself could not be felt except in the posterior fornix of the vagina; the sensation imparted to the finger was that of soft, elastic, uterine tissue, with an apparent retroflexion of this organ. The latter was also slightly movable and appeared to be attached to the growth in front, as pressure over the abdomen externally could be felt on the examining finger posteriorly and within the vagina. Auscultation proved negative. Although the physical signs of this enlargement were negative of pregnancy, the possibility of such a complication with a tumor deterred me from introducing a sound into the uterus, although the condition of the neck and os was also indicative of non-pregnancy. At any rate, it was thought that no additional information could be gained from the use of sound; as the growth was evidently not intra-uterine, it was thought better not to resort to it.

The tumor increasing in size very rapidly, the patient growing also weaker and weaker, and the onset of ascites about one week later led me to advise removal of the patient to St. Mary's Hospital for operative interference should such an emergency arise. She was accordingly removed to this institution May 24th, where she arrived almost entirely exhausted, but rallied in a few days after the free administration of stimulants. The vomiting also ceased gradually, although the tumor grew very rapidly, now extending about one inch above the umbilicus. As preparations were being made for an exploratory laparotomy, the patient suddenly became homesick, and insisted on being removed to her home again. While in the hospital, she was seen by my confrères, Dr. Geo. E. Jones and E. W. Walker, Dr. Chas. Reed and others, none of whom, however, ventured a positive diagnosis, although all agreed that there was no intra-uterine pregnancy. One of the gentlemen mentioned, however, hinted at the possibility of an abdominal pregnancy.

In spite of my protestations, the patient was again removed to



her home on the 3d of June. On June 10th, I was again summoned to see her at her home, when I found her suffering from great dyspnea on account of ascites, which was relieved after tapping, over an ordinary bucketful of serum being drawn off. During this time a room in the upper floor of this house had been vacated by tenants and I at once had it thoroughly scoured, white-washed, and fumigated with sulphur preparatory to performing a laparotomy.

Accordingly on June 12th, the abdominal cavity was opened, Drs. G. S. Mitchell, C. L. Reed assisting; Dr. Geo. E. Jones administered ether; Drs. B. Mosenmeier and Reed, from Hamilton, O., also being present. A long incision was at once made, extending from near the symphysis pubis to about three inches above the umbilicus. A large quantity of ascitic fluid at once poured forth, after which the tumor was gradually brought to view. It was gradually released from its attachments to the peritoneum without much difficulty. As an apparent cyst had been slightly nicked in making the abdominal incision, a trocar was pushed in with a view of drawing off some fluid; none followed, however, but upon withdrawal of the instrument an enormous quantity of a dark gunnious material at once welled forth, and the entire mass broke down. I hastily removed as much as possible of the *débris*, clawing it out with my hands, and controlling the hemorrhage by pouring into the cavity pitchers full of hot water. Hemostatic forceps could be nowhere applied, on account of the rottenness of the parts. The growth, which appeared to be a broken-down sarcoma, had apparently originated in the left ovary, gradually involving all of the neighboring tissues except the uterus and Fallopian tube of the opposite side. *The uterus was perfectly normal in size and appearance.* After the hemorrhage had been controlled and all loose structure removed, the abdomen was rapidly closed up again and a drainage tube inserted. The patient had become pulseless during the operation, and was only maintained alive by the great skill of Dr. Jones during the administration of the anesthetic. She rallied, however, rapidly after being put to bed. Hot-water bottles were placed to her feet and sides, and hypodermic injections of whiskey administered regularly. The abdominal cavity was washed out with carbolized water three or four times a day. There was no subsequent hemorrhage, and the wound was healing properly, but the patient gradually sank until the third day, June 15th, when she died. It was a surprise to all who were present at the operation that the patient did not die shortly after or even during the operation. A microscopic examination could not be made, because I was called to a labor case immediately after the operation, from which I did not return home until in the evening. In the mean while the specimen had spoiled.

Several features of interest attended this case. First, the youth

of the patient with a growth of malignant character of such immense size; secondly, the question of pregnancy complicating the tumor. The speaker must admit that he, at first, regarded this case as one of an immense fibroid of the anterior wall of the uterus, this organ appearing to be somewhat retroflexed, and the anterior wall apparently continuous with the growth in front. He excluded pregnancy for the reasons already given. The suddenness of the development was remarkable. The patient complained of no inconvenience until early in the spring of the year. Subsequently I was informed that, during a fit of rage, the father of the girl had kicked her in the side some months previously, and the question naturally arose whether this had not caused or, at least, aggravated the rapid growth of the tumor. The absence of all earlier signs precluded a resort to an early operation, which would, in all probability, have resulted less disastrously to the patient.

DR. THAD. A. REAMY remarked that the case reported by the Secretary was one which could easily lead to confusion of diagnosis.

The attempt at an operation was certainly justifiable, but he doubted if an earlier operation could have been more successful.

The speaker had during the past four years, especially the past year, had very high success in laparotomy cases; but he had very recently had a fatal case. This was a malignant disease of the right ovary. The patient was past the menopause. She complained of obscure pelvic pain. An examination disclosed the presence of a distinct tumor of small size, hard and nodular, in the region of the right ovary. She was somewhat emaciated, with suspiciously cachectic appearance. The diagnosis of probably malignant disease was made. The diagnosis was confirmed by operation, which revealed not only the ovarian disease, but an intense subacute and chronic peritonitis, with enlarged mesenteric glands. Left ovary diseased, also removed.

The patient rallied from the immediate effect of the operation, but was attacked on the third day with vomiting which persisted until the ninth day, when death occurred.

She survived eight and one-half days, but suffered almost no pain, absolutely no rise of temperature, and pulse only increased to 77 per minute. No tenderness to abdominal pressure. No tympanites till the sixth day, when, however, it developed rapidly and was extensive.

Union of the wound occurred by first intention.

After the distention, however, slight separation of the newly united edges occurred in the middle of the wound, from which small quantities of sero-purulent fluid escaped. The speaker then reopened the wound, and washed out the peritoneal cavity with a 1-8,000 solution of bichloride of mercury. The small intestine being enormously distended with gas, it was punctured with a small needle, and held aside, whereupon the gas escaped, and the distention speedily disappeared. Some recent adhesions about the cecum were broken up with the finger. At once vomiting ceased, the bowels, which had been obstinately constipated, were freely evacuated; the patient rallied markedly. Although the patient

succumbed, he considered the influence upon symptoms following relief of gaseous distention as very important clinical testimony in studying such cases. The persistent vomiting, which rejected everything taken by the mouth, rendered sulphate of magnesia, which ordinarily so promptly relieves tympanites, unavailing in this case.

He had frequently witnessed severe cases of peritonitis without rise of temperature, but this was the first instance in which he had seen a fatal case of peritonitis without material rise of pulse.

In regard to the case reported by Dr. Hall, Dr. Reamy remarked that in the main he agreed to the principles actuating the essayist in making an operation.

It was probably the only thing that could cure the patient. He would even go further, and say that he thought every dislocated and painful ovary, resisting other methods, should be removed. Perhaps the future may show us how to stitch up or hang up an ovary until adhesive union secures it, as is now done with the uterus and other organs. At present, however, removal is the remedy.

Individually, he must confess to have had unsatisfactory results from efforts at mechanical support of a replaced ovary. The speaker must protest against the words of the essay sarcastically ridiculing older authorities who have not advocated the modern surgical method in such cases. He would remind members that in the past laparotomy was not, as now, attended with but little danger. The date is recent, when an operator, with a mortality of but twenty-five per cent, was almost considered a prodigy of skill. There was as much surgical skill then as now. These men are not to be sneered at as ignorant bunglers; they should be honored and revered. We have better results, but how little the amount of positive knowledge in our possession which was not learned of them.

The speaker must also censure the words of the essayist, making light of the sexual appetite and capacity, calling it a "petty thing," and that therefore its loss, from extirpation of the ovaries, is of no importance whatever. This function is implanted by God into every organic being. It exists even in plants. Upon its existence and exercise depends the perpetuation of the human race. With the sacred purity of the married relation it has the Divine sanction. To speak of it as a "petty thing" is no better than blasphemy. Of course, child-bearing is inseparably connected and must follow to complete the filling of natural law. In this light, we should study these questions. In answer to a question, the speaker replied that in twelve or thirteen cases where he had been able to obtain what he considered reliable testimony, the sexual appetite was not destroyed after ovarian extirpation. These were persons in the married relation. In one case, of a married woman forty years of age, the mother of several children, he had removed the uterus and both ovaries, the sexual appetite remaining unimpaired after her recovery.

The speaker, in contradiction of the statement that extensive disease of the uterine appendages may never be cured without radical surgery, would beg to refer to a case under his care some years since, in the Good Samaritan Hospital. He just now recalled that his treatment of this case was witnessed by the President, Dr. Mitchell, who was at that time his assistant. The patient, a resident of Danville, Ky., was a lovely and beautiful girl

of eighteen. Following pelvic inflammation, which had succeeded to exposure to damp and cold during menstruation, she suffered of a pyo-salpinx. Communicating with this was an abscess in the right pelvic cellular tissue. The fluctuation was easily detected per vaginam. The abscess was opened from the vagina, permanent drainage secured by a self-retaining silver tube, and complete recovery followed. He had in the presence of Dr. M. and other physicians, in this case, on several occasions, injected fluid through the opening in the upper vaginal wall, which escaped from the uterine os. He had likewise in their presence proven that the communication was by way of the distended Fallopian tube, by passing a long, comparatively slender, copper sound. This patient has since married, is now living in another city, in health and happiness. She is the mother of lovely children. Had she had the misfortune to have been born a few years later, so as to have fallen more fully into the age of abdominal surgery, she would probably have lost both ovaries and tubes.

Wise discrimination should guide us in the high possibilities of our surgical skill.

DR. HALL, in concluding the discussion, said that his reference to the futility of other treatment than operation in certain diseases of the ovaries and tubes was not made with an intention to throw sarcasm upon the views of older authorities, but simply to call attention to the fact that the true cause of the disorder is often overlooked. So also in the cases of ovarian displacements the true cause is disease of the ovaries. He advised an operation only after other methods of treatment had been tried, and after the full conviction that there is no other means of getting relief. Nor did he look upon the question of removal of the ovaries and tubes as a trivial thing, as one might be led to believe from the remarks of one of the speakers to-night. While he was willing to believe that there might be one in a great number of cases that had partial or total loss of sexual feeling after the operation, he argued that it should be set aside against the question of serious loss of health and function of the ovaries by disease. We should not mutilate a woman unless it became necessary, and as a last resort.

---

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF LONDON.

---

*Wednesday, October 3d, 1888.*

JOHN WILLIAMS, M.D., *President, in the Chair.*

### A NEW OPERATION FOR THE CURE OF VESICO-UTERINE FISTULA.

In this paper, DR. CHAMPNEYS described a case where he performed the new method of operating. The cervix being held down, the anterior vaginal wall was dissected away from the cervix to beyond the limits of the fistula. By this procedure, a hole was left in the bladder and another in the cervix. These were

closed, and the vaginal wall repaired, with complete success. The author compared this operation with those in use, and enumerated what he believed to be its advantages. In this case silver sutures were used, those closing the two holes were cut short; those uniting the vaginal wall to the cervix were afterwards removed. Dr. Champneys used silver sutures because he was anxious not to fail in a new operation on account of the sutures. In subsequent operations he would be inclined to try silk, so great was his belief that fistulæ would be easily and successfully closed by this method.

DR. PERCY BOULTON, with a large experience of injuries of the female bladder, had seen few cases of vesico uterine fistula. In each, the anterior lip of the os uteri had been torn through at the line of the accident up to the seat of the fistula. Dr. Boulton thoroughly denuded the opening of the fistulous tract at its uterine end, closing this by means of a single "purse-string" suture, and at the same time repairing the torn cervix by means of an ordinary Emmet's operation, the top suture of which made the fistula doubly secure. He had no dread of operating on uterine tissue. In Dr. Champneys' case, the fistula was comparatively accessible, and might have been pared and stitched from the intra-uterine side after widening of the os by Hegar's dilators, if necessary. Dr. Boulton saw certain objections to the new operation. 1. The pelvic cellular tissue was opened up and freely bathed with urine during the whole of a long surgical proceeding. 2. The amount of necessary repair was more than trebled, since three large openings had to be closed; Dr. Champneys admitted that he used fifteen silver sutures. 3. All the sutures put into the bladder and uterus were shut up and left behind, seven in the bladder and four in the uterus. Though (as Dr. Champneys had noted) silver sutures were left in the uterus, without evil results, in Saenger's Cesarean operation, there was no alternative in that case; whilst leaving or removing sutures was a matter of choice in repair of vesico-uterine fistula. Even now the patient might not be free from future complications, such as escape of a suture into the bladder and formation of calculus, or trouble during a future delivery.

DR. HERMAN thought that the operation was a great improvement in the treatment of these cases, as far as could be judged from the description; but very few persons had practical experience of vesico-uterine fistula. He would suggest that the objection raised by Dr. Boulton as to the undesirability of leaving so many silver sutures in the parts could be met by using catgut, which would certainly be absorbed. If this were done, there would be no need for packing the vagina with gauze.

MR. ALBAN DORAN referred to Dr. Bozeman's recent bold innovations in the treatment of urinary fistulæ. That authority recognized two obstacles to success in extensive plastic operations. The vaginal and vulvar tissues were kept in an unhealthy state, being constantly soaked in urine. The urine itself was in a morbid condition through pyelitis, a complication constant, in his opinion, in old-standing fistulæ. Dr. Bozeman, therefore, fitted a drainage apparatus to the fistula, protecting the vagina, and after a time catheterized the corresponding ureter and washed out the kidney daily with sublimate lotion till the urine became healthy. Then



he repaired the fistula. He had extended this operation to cases of primary pyelitis, making an artificial fistula, so as to reach the ureter.

DR. CHAMPNEYS, in reply, stated that in future he would use silk or perhaps chromic gut for sutures; why he used silver in this case was already explained in his paper. With antiseptic irrigation, there was no reason to dread opening up the cellular tissue, or the passage of a few drops of urine. He preferred to close a fistula at its origin and, practically, throughout its course to attempting its closure at the distal end only. Uterine tissue would, of course, heal, but it was not nice to work in. If Dr. Boulton had not performed vaginal extirpation of the uterus or supra-vaginal amputation of the cervix, he would be astonished at the ease with which the bladder could be approached by the way indicated in the paper, and Dr. Champneys verily believed that whoever once operated by the method described in his memoir, would use no other operation in the future.

ON THE VALUE OF PILOCARPINE IN PREGNANCY, LABOR, AND THE LYING-IN STATE.

DR. JOHN PHILLIPS, who read his paper, gave as his reason for bringing this subject forward the uncertain and diverse opinions held upon the value of pilocarpine. He has treated the questions at issue under five heads. (1) The use of pilocarpine as an abortive; (2) For the induction of premature labor; (3) *Intra partum*; (4) *Post partum* and during the puerperium; and (5) In albuminuria with or without eclampsia.

Seven cases have been experimented upon, and the results given in detail. Forty-eight cases under the second heading have been collected from all sources, of which twenty-seven have been arranged in two tables, while two original ones have been appended in full. The author concludes that five only of these can be considered as unqualified successes, and thinks that pilocarpine is able in a certain number of cases to induce labor, but that it is not in any way reliable as an ecboic; those cases in which there is a tendency to premature termination of pregnancy being most suitable for its administration.

Pilocarpine *intra partum* is considered under three heads: ( $\alpha$ ) the "latent period" of labor; ( $\beta$ ) the dilating stage of labor; ( $\gamma$ ) the expulsive stage of labor. Five instances occurred in the author's practice, and in one sphygmographic tracings were taken at various intervals. The result of thirty-nine cases is worked out, twenty-eight being successes and eleven failures.

The author concludes that during the dilating and expulsive stages of labor pilocarpine is equally productive of increase and intensification of labor pains with ergot, but with more certainty of action and with none of its ill effects. Cases of simple uterine inertia are the most suitable for its administration. The drug is useless *post partum* and to stay hemorrhage.

In a third table the results of thirty-nine published cases of puerperal eclampsia have been given, with recovery of thirty-one



mothers and eight maternal deaths, or 20.5 per cent. Although good effects were produced in twenty-eight cases, yet in nine such dangerous symptoms manifested themselves that the author is bound to warn others against its use, especially when coma is pronounced. He recommends bleeding in conjunction with pilocarpine where it will not act alone, and adduces evidence to show that the mortality is not greater under this mode of treatment than in any other. Statistics of treatment by other methods are given, and the results compared. The question of the reason why pilocarpine is productive of uterine pains is discussed, and three theories given; the "latent period" of the drug is referred to and illustrated by cases.

Further remarks are made upon: The action of pilocarpine on the fetus, complications attendant on its use, the proper dose for administration, and contra-indications.

The paper terminates with conclusions as to its value and the precautions to be observed when used.

DR. CHAMPNEYS eulogized this monograph as a most valuable summary of our knowledge on the subject, calculated to render reference easy in the future. He confessed that it had not made him feel anxious to use the drug.

DR. HERMAN observed that Dr. Phillips had stated in his exhaustive treatise that during the dilating and expulsive stages of labor pilocarpine was equally productive of increase and intensification of labor pains with ergot, but with much more certainty of action and with none of its ill-effects. Dr. Herman thought that there were few drugs so certain and so definite in their action as ergot. That drug produced its effects whenever it was administered throughout the stages of labor, or when the uterus was delivering a fibroid. Provided that ergot was not given when contra-indicated, no ill effects ensued. Whenever it was beneficial that uterine contraction and retraction should be produced, ergot would be given with confidence that this effect would follow, the causes of the few exceptions being pretty well known. The effect, on the other hand, of pilocarpine during the first and second stages of labor did not follow in every case, and, even when observed, was transitory. In the third stage, when certainty of action was especially wanted, its advocates admitted that it was valueless. The pains of the first and second stages of labor were influenced by so many causes that to determine the action of any agent upon the uterus it must be shown that its effect is both marked and constant. The entrance of the doctor into the lying-in chamber frequently stopped the pains for a time, but nobody contended that his movements had any special effect upon the uterus. Therefore the evidence failed to convince Dr. Herman that, in its effect on the uterus, pilocarpine was at all to be compared with ergot, either as to power or certainty. Assuming that the effect could be relied on, he thought that, remembering the sweating, giddiness, etc., which resulted from pilocarpine, there were fewer objections to the forceps. Dr. Herman concurred with Dr. Phillips in his warning against pilocarpine when eclampsia with coma had set in, on the ground of the dangerous liability to filling of the bronchial tubes with secretion. In

eclamptic patients who recovered from convulsions and coma, the great danger was from pulmonary complications resulting from the great congestion of the lungs during the fits, and Dr. Herman thought that the liability to these lung troubles would be increased by pilocarpine. Dr. Phillips' warning was hard to reconcile with his subsequent statement, that the mortality was not greater under this mode of treatment than under any other. If the dangers were real, they must raise the mortality. Dr. Herman thought that there was no satisfactory standard by which to estimate the mortality in puerperal eclampsia, since we did not know what was the average mortality when that complication was left untreated.

DR. DYCE BROWN was struck with the uncertainty of the action of pilocarpine as an ecbotic, according to Dr. Phillips' evidence. Not only was it useless for eclampsia, when not actually dangerous, but the dose which had produced dangerous symptoms in some cases was not higher than that which had been administered in other cases. Pilocarpine appeared to Dr. Brown to be a valueless addition to the obstetrician's *armamentarium*.

DR. JOHN PHILLIPS remarked, in reply, that he had undertaken his researches with the greatest impartiality. Before commencing them, he had studied all the literature upon the subject, and had condensed the results in his tables. He had laid especial stress upon the danger of its use in puerperal eclampsia, a matter which had not received sufficient attention. Säger's idea that its use might supersede the forceps was necessarily chimerical, and should not be entertained for a moment. He was sorry that all his evidence pointed to the fact that pilocarpine was not desirable as an ecbotic remedy, and that no positive evidence of its value could be adduced.

---

## REVIEWS.

---

DES MALADIES SIMULÉES CHEZ LES ENFANTS.—SIMULATED DISEASE IN CHILDREN. By LOUIS DUFESTEL. Pp. 144. Published by the order of the Faculty of Medicine. Paris: 1888.

Among the inaugural *theses* sustained before the Faculty of Medicine of Paris this year was this by Dr. Louis Dufestel on the simulation of disease by children. It is characterized by careful study of recorded cases and original research, and is a valuable contribution to the literature upon a subject that, until lately, has received but little consideration.

The simulation of disease by children does not seem to have been recognized by older authors. Those who have occupied themselves with the question of simulation do not appear to have thought the child capable of feigning a pathological affection. Galien, who devoted a whole chapter of his work to the simulation of disease, does not give a single example of it in children; neither does Paré, who wrote with so much detail of the practices of the vagrants of "*la Cour des Miracles*." In the treatise of C. West and in that of Henoeh, we find a few lines upon the subject, and in the memoirs of Bourden and Fournet, some notice is taken of it.

Recently, Motel, by his medico-legal communications to the Académie de Médecine on the false testimony of children, has called attention to the subject.

It is seldom found in subjects under five or six years of age, and more frequently in females than males. Heredity and education are the main etiological factors. The parents, in majority of cases, are neurotic. City children are more prone to simulation than those of the country.

He classifies them into:

*Vulgar simulators*, those who simulate to avoid lessons or other distasteful tasks.

*Veritable simulators*, those who simulate for the pleasure of it, without any apparent object.

*Hysterical simulators*, those who simulate for the purpose of creating sympathy.

The numerous diseases simulated he classifies into *subjective* and *objective*.

The diagnosis is often difficult, especially if the patient belongs to the second classification. Prognosis is good if parents can be convinced that the child is feigning.

The treatment is purely moral.

HUGH HAGAN.

FORMULAIRE CLINIQUE ET THERAPEUTIQUE POUR LES MALADIES DES ENFANTS.—CLINICAL AND THERAPEUTICAL FORMULARY FOR DISEASES OF CHILDREN. By DR. ALBERT WILLARD. Second Edition. Paris, 1888, pp. 388.

This is primarily a treatise on posology and pharmacology. No explanation of the therapeutic action of drugs is attempted. A concise definition and short clinical history of each malady is followed by a number of formulæ more or less complex, and with an aim at elegance. No mention is made of the many new remedies recently brought to the notice of the profession, a few of which are now in common use. As an apology the author says that their action is not well enough established to warrant their recommendation in the delicate treatment of infants.

Of the many elaborate tables devised for the regulation of dosage he prefers Young's, which consists of establishing a fraction having for numerator the age of the child, and for denominator the age plus 12; for example: child one year old,  $\frac{1}{1+12} = \frac{1}{13}$  of adult dose.

The important fact that all the systems ignore is that children can often take, with impunity, adult doses of active drugs—arsenic, belladonna, iron, strychnine, etc. Children often require large quantities of compound jalap powder as purgative, and ipecac as emetic, while opium and its preparation and derivatives should be administered to infants with extreme caution.

The author divides infancy and adolescence into two periods each.

Infancy, 1st period ends at	2d	year.
2d	"	"
Adolescence, 1st	"	"
2d	"	"
	7th	"
	12th or 15th	"
	22d or 24th	"

During the first period of infancy the author says that hygiene plays an important rôle, and that in the majority of infantile affections the physician should content himself with regulating the diet, dress and bedding, and refrain from energetic medication, which always works more harm than good.

In speaking of the diverse modes of alimentation, the author says that artificial feeding, no matter how carried out, is always inferior to maternal or wet-nursing. In this he differs from Dr. Joseph E. Winters, and a few others, who maintain that artificial feeding, if properly directed, is infinitely better than wet-nursing.

H. H.

## ABSTRACTS.

**1. F. Ahlfeld : Expectant Method or Crede Manipulation ?** (Leipsic, Gusserow, 1888).—The author reviews the history of the question which has agitated the minds of practitioners for some time and with which the readers are probably familiar. He then enters on the considerations of the normal mode of detachment of the placenta. Schultze (Jena) in 1865 gave an approximately correct description of the process. Lemser's explanation, published in the same year, which was based on observations on animals, was worthless for the human organism. Schultze's explanation is briefly the following: As soon as the last portion of the child leaves the uterus, the latter contracts so much that the placenta, heretofore adherent, must become detached. It would occur earlier, were it not for some of the retained liquor amnii. Normally the centre is first loosened, the marginal portion remaining adherent. Detachment can occur only by a pouching of the centre, which leaves a cavity between the uterine wall and the detached portion, which necessarily fills, by aspiration, with blood from the decidual vessels—the retro-placental hematoma. The first after-pain completes the detachment. The pouching becomes larger, the retro placental hematoma increases, and the placenta passes into the dilated cervix. As the marginal part is loosened, the membranes experience the traction, and their detachment is inaugurated: the retro-placental hematoma crowds between the lamellæ of the decidua and thus most gently separates the membranes. This detachment occurs in the dilated glandular layer of the decidua, the dense layer remains adherent to the chorion and villi and is expelled with the after-birth. If the dense layer remains behind, the course is abnormal, blood continues to flow into the sinuses opened by detachment of the villi, escaping into the cavity of the uterus and outward.

Duncan, Credé, and Fehling questioned whether this process was the normal one and pleaded for another mode of separation (Duncan's). But both the Dublin and the Credé manipulation cause the latter mode of separation, by keeping the uterus in contraction.

Credé, Fehling, and others have asserted that no proof has been furnished of the regular occurrence of Schultze's mode of separation, but this is not so: a number of observers have felt the central bulging of the placenta on inserting their hand into the uterus immediately after the expulsion of the child. The same phenomenon has been seen on opening the uterus. Besides, the shape of the uterus containing the placenta speaks against Duncan's modus; it would have to represent a narrow ovoid, while it usually assumes an almost globular form.

With the successive pains the placenta descends lower and lower,

This is effected by the pressure of the contracting uterus on the retro-placental hematoma, more rarely by straining. By this descent the still adherent membranes are gently drawn down and thus detached. In about half an hour, the placenta has reached its lowest point, behind the introitus vaginæ; there it usually remains and is not expelled spontaneously. A well-preserved perineum especially contributes to this retention, and the dorsal position favors it. If the perineum be retracted with the finger or speculum, or if the woman bear down, the placenta emerges from the vulva. The membranes follow the placenta in the shape of a long cord; if the placenta be forced out too early, while the membranes are still retained above the ring of contraction, they are apt to tear.

The rarer (Duncan's) mode of separation of the after-birth.—In about twenty per cent of the cases, the lower margin of the placenta first insinuates itself into the os; a central detachment occurs imperfectly if at all. The blood from the portions of the maternal decidua where the villi have separated flows unhindered outward. If the next pain separates the placenta completely, so that the uterine muscle can contract well, the hemorrhage stops. But often the placenta adheres more firmly, and hence this modus is associated with greater loss of blood. The membranes in this modus are detached solely by the traction of the placenta, the preservative effect of the hematoma being absent, and therefore they are more liable to be torn and retained, the uterus contracts less vigorously, and after-hemorrhages are the rule. This modus may be produced artificially if the formation of the retro-placental hematoma is prevented by massage of the uterus immediately after the expulsion of the child, as by the Dublin or the Credé manipulation.

After considering the loss of blood succeeding the birth of the child, the importance of the physiological processes for the course of the third stage of labor, the disadvantages of a too rapid and forcible separation and expulsion of the after-birth, A. explains the advantages of the expectant method with reference to the diminished loss of blood, the rarity of hemorrhage in the puerperium, or of the retention of remnants of membranes, and gives the following directions how the expectant method is to be carried out. After the delivery of the trunk, escape of the retained liquor amnii, and division of the cord, the external genitals are cleansed with cotton and sublimate or carbolic solution, and the funis is laid over one of the flexures of the thigh. The perineum and vulva are inspected, and bleeding wounds are closed; non-bleeding wounds are attended to only some time after the termination of the third stage. The wet cloths are removed and replaced by fresh and dry ones; the legs are slightly approximated, and the patient well covered. At intervals of five minutes, the covering is lifted, and the cloths inspected; if clean, they are left undisturbed; if a little blood has escaped, the nurse turns over one of the corners so as to bring a clean portion under the rima vulvæ.

In the majority of cases, the cloths need not be changed until one and a half hours post-partum. After the lapse of this time, the orifice of the urethra is touched lightly with cotton and sublimate solution, the urine drawn, and the placenta expressed, thus: The attendant grasps the fundus with four spread fingers whose tips are directed towards the lumbar vertebræ (passing along the posterior wall of the fundus and corpus uteri), the thumb resting on the anterior wall. The uterus being brought into the mid-line, the fingers are alternately contracted towards



the fundus, and extended along the uterus; as the latter hardens, pressure is exerted mainly with the ball of the thumb on the fundus, when the placenta begins to emerge from the rima vulvæ. Usually the patient now completes the expulsion by voluntary effort. Care is had that the placenta emerges slowly from the vulva lest the membranes be torn: again the external genitals are carefully cleansed with cotton or mull dipped in sublimate solution, and the manipulation is completed.

Where continuous hemorrhage ensues which is not due to injuries, massage is performed: if arrested, the expectant method is resumed and the placenta expressed after one and a half hours: if massage fails, the expulsion of the placenta is considered abnormal and early expression indicated.

"The physician must ever be conscious that in performing Credé's method he is disturbing a physiological process. The responsibility for the consequences due to this disturbance must unquestionably be assumed by the physician."

F.

**2. D. Berry Hart: An Improved Method of Managing the Third Stage of Labor, with a Criticism of the Theory that the Placenta is then Separated by the Uterine Pains** (*Edinburgh Med. Jour.*, October, 1888).—1. At the beginning of labor the placenta and uterus are together to be considered as made up of the following parts, so far as the question of separation is concerned:

(a.) *The part to be separated*, comprising amnion, chorion, chorionic villi, intervillous spaces, large-celled layer of serotina.

(b.) *The line of separation*, lying between the large-celled and small-celled layers of the placenta, and termed the trabecular layer. It is formed chiefly by the persistent fundi of the uterine glands.

(c.) *The part left behind* after the placenta is separated, and consisting of the small-celled layer with remains of uterine glands, smaller in lumen, set on the uterine muscle.

2. The chorionic villi get their blood supply from the umbilical arteries of the fetus. The intervillous spaces have blood poured into them from the maternal circulation, the blood passing by the curling arteries into the spaces, and from these into the uterine sinuses by the slanting veins. The venous supply of the uterus is much more abundant than the arterial.

3. At the trabecular layer we may regard the placental area (*i. e.*, uterine surface of separated placenta) and placental site as coinciding during pregnancy, with trabecular layer joining them.

4. Separation of the placenta can only take place when there is disproportion between placental area and placental site.

5. The placenta does not separate during the first and second stages of labor, because all changes in the placental site (diminution during pains and expansion when pain dies off) are accurately responded to by the placenta, owing to the activity of the fetal and maternal blood supplies.

6. During the third stage of labor the fetal circulation is cut off and the villi are closely pressed together, showing obliteration of intervillous spaces. The increase in placental site following a third stage pain is not followed up by the placental area, as the placenta is now practically a bloodless structure.

7. The placenta does not separate on diminution of placental site to 4" x 4".



8. Any diminution of site below this introduces no relative change at plane of separation. The area of the placental site and the placenta still correspond.

9. A disproportion in area between the placental site and placenta brings about tension on the trabeculæ of the trabecular layer, *i. e.*, tears them.

10. This disproportion happens during the third stage in the relaxation following a pain, and, therefore, separation occurs after the pain. During the relaxation the placental site increases slightly, but the placenta, now bloodless, or nearly so, does not respond; hence disproportion of area.

11. The placenta, when separated, is expelled by the pains either as Duncan or Schultze has figured.

12. All separations of placenta or membranes follow one mechanism—*“Placenta and membranes separate when there is a disproportion at the plane of separation between their area and their site of attachment. This disproportion is only slight, as the trabeculæ are microscopic.”*

The gist of the view advocated is that the placenta separates in the third stage after the pains, and is expelled, when separated, by the pains. The important practical point is that manipulation cannot separate the placenta, but can only aid expulsion.

From the above demonstration, H. has formulated the following rules for the management of the third stage of labor.

1. When the child is born, note that the fundus uteri stands at or below the level of the umbilicus, and that the uterus does not contain a second child. Give an ergotine injection in a multipara, at any rate, if labor has been slow.

2. Do not tie the cord until the child has cried freely, and then tie only one ligature.

3. Cut the cord on the placental side of the ligature, and let the placental part of the cord drain thoroughly into any small dish; then tie it, to prevent any staining of the bed linen. Tie a second ligature at once, however, if a second child be present.

4. Before applying the first ligature, it should be thoroughly ascertained by abdominal palpation that the uterus is not so relaxed as to bleed.

5. Continue with the hand on the uterus; do nothing when a good contraction comes on, and allow the uterus its normal relaxation after the pain is over.

6. Should bleeding from the uterus come on, or should the pains be feeble, then grasp the uterus so as to bring on a contraction to arrest hemorrhage.

7. Do nothing further in a normal case until the lessening of the bulk of the uterus shows that the placenta is separated and being expelled; the expulsion may then be aided by “expression.”

8. One can tell when the placenta is separated and not driven down by noting that gentle expression drives it down.

The reasons for the above treatment are as follow: Ergotine and manipulation are used to insure good marked retraction and to empty the intervillous spaces well. The fetal circulation is aspirated thoroughly by allowing the child to cry well, and by draining the cord. These two measures give the necessary disproportion sooner, as the placenta can-

not now follow up the increase in placental area during relaxation. is made as small in area as possible, and relaxation thus sooner tears the trabeculæ.

Since practising this procedure, H. has had no difficulty in the normal third stage of labor. Interference is reduced to a minimum, and the membranes expelled intact.

[The hypothesis of Hart is certainly well sustained, ingenious, and probable, but his directions for the management of the third stage, as well as those of Ahlfeld in the preceeding abstract, seem open at some points to discussion.

The method which I have for some time used is: After the birth of the child keep the hand held lightly over the fundus until two or three good contractions have occurred, then, with each succeeding pain, stimulate the contraction by circular friction and increasing but gentle pressure over the fundus until the placenta is expelled, guiding it at the same time gently over the perineum by the other hand. Gentle, steady friction is then to be kept up over the fundus until permanent retraction ensues. By this method the third stage usually occupies about twenty minutes and there is much less liability to any bleeding or to the retention of the membranes than when the unmodified Credé method is employed. Every one who has many times expressed the placenta immediately with the first or second pain after the birth of the child must have noticed how very frequently parts or even the whole of the membranes have been retained. While not favoring immediate expulsion, except in case of troublesome hemorrhage, I do not, in the face of the very satisfactory results obtained by the method just described, see the use or necessity for waiting for one and a half hours as Ahlfeld advocates. Except where we have good reason to fear atony, it does not seem necessary to use ergot until after the placenta is delivered, when it is customary to give a drachm to insure good retraction and the avoidance of after-pains. But few obstetricians now ligate the cord before pulsation has ceased and most of them apply a double ligature. In the face of the very probable hypothesis of Hart, it will be well for us to omit that second tying and so determine for ourselves what practical difference it may make. Bleeding from the placental end of the cord is usually slight. The method of treating the third stage, as I have just prescribed it, is essentially that advocated by Mundé, save that he gives, as a routine measure, a drachm of ergot immediately after the birth of the child.]

B. H. WELLS.

**3. Vilderman (George): Diagnostic Signs of Triple Pregnancy** (*Thesis*, Paris, 1888, p. 92).—The author, after defining his subject and passing rapidly in review the different cases of triple pregnancy found in medical literature, discusses the various signs of this condition.

The first few months pass normally, but at the beginning of the fifth, the abdomen assumes undue proportions, so as to attain the size of the uterus of nine months when the woman has been pregnant but six. This undue development may be sometimes retarded or, indeed, be entirely missing. Two causes concur to produce this state, the number of fetuses and *hydramnios* of one or more of the bags.

The tension of the uterus may be so great as to render any diagnosis by palpation impossible. The rapid development naturally entails a

series of symptoms: Varicose veins extending over abdominal walls as well as the legs, accompanied generally by an equally extensive edema, compression of the viscera, dyspnea, a sensation of extreme fatigue unfitting the woman for the slightest exertion. The fetal movements are felt simultaneously over multiple points, but the pains are more particularly localized in the lumbar and hypogastric regions. The diagnosis of triple pregnancy is difficult and sometimes dispossible. "It can, however, be made when the stethoscopic examination reveals the existence of three distinct foci of fetal heart sounds separated by distinct zones of absolute silence. The number of pulsations to the minute should vary in each focus. This diagnosis takes the character of absolute certitude when three skilful observers auscult simultaneously or, what comes to the same, when two observers auscult simultaneously two of the three foci, combining them successively." There are three certain signs of triple pregnancy:

- a. The presence of five extremities revealed by palpation alone or by palpation combined with digital examination.
- b. The presence of three heads revealed by palpation alone or by both palpation and digital examination.
- c. The presence of three large fetal parts, no matter of what nature—back, head, or breech—independent of each other, each displaceable without communicating corresponding movements to the other. H. H.

**4. Lange: Concerning a Certain Kind of Retention of the Placenta** (*Zeitsch. f. Geb. u. Gyn.*, XV., 1, 1888).—The writer describes a certain form of retention of the placenta which he has been unable to find described in any of the works on this subject. Being called in by a midwife in a case of retained placenta, he found a muscular, but not fat, woman with thin abdominal walls, and the uterus prominent between the separated recti muscles, the anterior abdominal wall being much sunken above and at the sides of the uterus. All efforts at expression of the placenta by Credé's method proved futile. On introducing the hand, the fetal side of the placenta was felt just inside the os. On reaching its margin with the fingers, it came away with a rush, but was not followed by the usual retro-placental blood. A second and similar case occurred a year later. The author considers the retention due to the fact that, the abdominal walls being sunken, the voluntary efforts of the patient, by causing a contraction of the abdominal muscles, produced a separation of the anterior from the posterior abdominal wall, thus lowering, instead of raising, the intra-abdominal pressure.

W. L. BANER.

**5. P. Reichel: Ileus following Vaginal Hysterectomy. A Contribution to the Technique of the Operation** (*Zeitsch. f. Geb. u. Gyn.*, XV., 1, 1888).—R. describes three cases of fatal ileus following vaginal hysterectomy. In all three cases the *cul-de-sac* of Douglas was left open, although in two of the cases the peritoneum was stitched to the posterior vaginal wall. The two dangers, which the advocates of closing the vaginal wound claim are to be met with in the open method, are: 1, Prolapse of the intestine; 2, septic infection from the vagina. As an advocate of the open method, Schatz (*Arch. f. Gyn.*, Bd. 21) has said that the shortness of the mesentery would prevent prolapse of the intestine, and that, moreover, on the removal of the uterus, the bladder extended to the anterior wall of the rectum and completely filled the

pelvis. The author takes exception to this from the fact that he has seen the intestine in the wound at operations, in cases where attempts at vomiting had followed incomplete anesthesia. In two cases, moreover, he had seen intestine appear in the wound several days after the operation. Both cases terminated favorably. In examining the literature of the subject, R. finds four cases similar to those which he reports. He considers drainage unnecessary if the operation be done under strict antiseptic precautions. The author describes in detail the occlusion of the vaginal wound.

W. L. B.

**6. Kiderlen: Malformation of the Female Genitals** (*Zeitsch. f. Geb. u. Gyn.*, XV., 1, 1888).—The author gives detailed histories of several cases of different malformations of the female genitals, occurring in the clinic and private hospital of Dr. A. Martin. There are records of three cases of rudimentary uterus and vagina. One case of double genital canal, with hematometra and hematocolpos of the right side, is interesting from the fact that eighteen hundred grams of dark-red, tarry, menstrual fluid was evacuated when the hymen was incised. Two cases of double genital canal without complications are reported. Also three cases of marked bicornuate uterus. One of the latter is especially interesting clinically from the fact that conception took place in one of the horns, making diagnosis extremely difficult; in fact, the diagnosis of extra-uterine pregnancy was made. Curetting of the uterus, followed by the separation of the ovum, settled the diagnosis. The author also gives histories of three cases of atresia of the vagina.

W. L. B.

**7. Foulis: The Cause of the Head Downward Presentation and of the first Cranial Position** (*Edinburgh Med. Jour.*, 1888).—In this elaborate paper the author enters minutely into the explanation of the phenomena described, of which we can give here hardly more than the bare conclusions.

“The shape of the uterus in the early months of pregnancy is globular, and during these early months the fetus will gravitate head downwards to the bottom of the uterine sac; but as soon as it is able to extend its legs forcibly, the position which gravitation has given to it may be altered. There comes a time when the relation between the uterine sac and the size and power of the fetus is such that the latter cannot forcibly extend its lower limbs without causing the head to glide forward over the inner curved surface of the uterus, so that sooner or later it comes to be directed downward.

In the case of a head downward presentation in the last few weeks of pregnancy, the head of the child is of such a size and shape that it fits closely the lower part of the uterine sac which is surrounded by the bony pelvis, and during the further extension of the child's limbs upwards against the uterine wall the head becomes more and more fixed in its position, just as a ball is over a bony cup, and in such a position it is almost impossible that it can glide away out of the cup, because the more powerfully the child extends its limbs upwards the greater is the downward pressure and the frictional resistance between the head and the lower part of the uterine sac supported by the bony cup, and in this way the final position is maintained.

By this hypothesis, the assumption of the natural or head downward

position of the child is a vital act, resulting from its own muscular effort. Death of the child in utero at any period may result in any presentation, normal or abnormal, according to *physical* laws.

The child's head does not always lie over the pelvic brim as soon as it has taken the downward presentation. It may lie on the symphysis pubis or on either ramus for a long time after the head is down; but there is a constant tendency in the later months for the head to slip off these parts, so as to lie over the brim of the pelvis in one or other of its long diameters; and there is a disturbing cause at work to prevent the head being found just as frequently in the left as in the right oblique diameter. That disturbing cause is to be found in the extension movements of the child's lower limbs, which result in the child's body being pushed away as far as possible from the surface which offers most resistance to the lower limbs in the act of extension, *i. e.*, that which lies against the liver in the right hypochondrium.

## CORRECTIONS.

DR. H. P. C. WILSON, of Baltimore, states that in the report of his remarks in discussing Dr. Engelmann's paper, read before the American Gynecological Society, and published in the October number of this JOURNAL, page 1,058, the sentence beginning "Keith and Apostoli" should read, "and claim that the first sitting should last from three to five minutes, and that the good to be derived in a given case should occur in about thirty sittings."

On page 1061 of the same number, Dr. Hanks' concluding remarks should read as follows: "5th. If the fetus is dead, the patient having passed the ninth month, an operation should be performed for the removal of the dead fetus whenever her constitutional symptoms indicate failing health."

## ITEM.

DR. T. G. THOMAS has resigned from the Woman's Hospital in the State of New York. The Medical Board has requested the Board of Governors not to fill the vacancy for the present.

# THE AMERICAN JOURNAL OF OBSTETRICS

AND  
DISEASES OF WOMEN AND CHILDREN.

---

---

VOL. XXI. DECEMBER, 1888. No. 12.

---

---

## ORIGINAL COMMUNICATIONS.

---

### A NEW METHOD OF OPERATION FOR RESTORATION OF THE LACERATED PERINEUM.

---

BY

A. PALMER DUDLEY, M.D.,

Surgeon in Charge of St. Elizabeth Hospital; Gynecologist to the N. E. Dispensary;  
Visiting Gynecologist to Randall's Island Hospital.

---

THE subject of operation for restoration of the lacerated perineum was worn threadbare long before I entered the field of gynecology, while for the past ten years the fashionable theme in gynecological literature, in this country as well as abroad, has been laparotomy and some of its magnificent results, from the removal of a simple ovarian cyst to the operation of which we hear so much just now—the primary operation for the removal of an extra-uterine pregnancy.

And all the time each specialist has been searching—not without success—for some new thing with which to startle his medical brethren, or on which to found a reputation for unusual skill.

But when I find, after carefully watching the advance in gynecological surgery for the past ten years, that only two or three articles devoted to improvement of that old operation for the relief of injuries to the perineum have been presented to



the profession in this country, I may, perhaps, be pardoned for raking up a few of the old embers, and calling the attention of this Society to the perineum and its laceration during childbirth.

I wish to discuss the merits of what I consider to be a new method of operation for the physiological and permanent cure of this very common injury. To do this, I must in a friendly manner combat to a certain extent the theory of the etiology of the injury which is now being taught by a most eminent member of this Society.

When, in 1881, I entered the Woman's Hospital as Interne, Dr. Emmet was using what he then called a new operation. His reasons for making the change were based upon the theory that the injury to the external parts received during delivery, either naturally or by the use of instruments, was one in which the essential and causative element was a laceration of the fasciæ which in his opinion sustained the floor of the pelvis. Or, to quote from his published description, "the fascia extending from the sulcus on each side becoming separated from its connection with the vaginal outlet in a direction transverse to the axis of the canal," was what destroyed the natural support of the pelvic contents and allowed the perineal portion of the external genitals to drop away from its posterior vaginal connection, and at the same time destroyed the support of the anterior vaginal wall and urethra.

This new method of operation which he was introducing was resorted to for the purpose of restoring this lacerated fascia to its proper connection and continuity on the posterior vaginal wall, while at the same time it lifted up the fallen external genitals into apposition with the anterior vaginal wall, narrowed the vaginal outlet, drew the separated structures closely together in the median line, and prevented a relaceration of the soft parts at a future labor. In his belief it quite superseded the old-fashioned method of uniting the lacerated structures superficially and bringing the separated labia into contact again by direct sutures. His new operation (see Fig. No. 4) is a difficult one to describe clearly and intelligibly, and a particularly hard one for the general practitioner to understand and perform, as it is done by Dr. Emmet.

Now to get a practical comprehension of any theory relating to repair of injury to the external genitals received in child-

birth, one must have an intimate and personal knowledge of the anatomical make-up of the parts involved, as they are in their normal condition, and any theory not based upon such a foundation will surely be found on trial to be open to criticism.

To gain a thorough knowledge of the anatomy of the female perineum from any text-book thus far written, with but one exception, is, to say the least, a very difficult matter, owing to the fact that our descriptive anatomists have largely confined themselves to dissections and descriptions of the male perineum, and have been content to give but a passing notice to the arrangement of the various structures which form the perineum in the female. It is curious on the whole that such a preference should have been shown. The one exception to which I allude is the work upon the "*Topographical Relations of the Female Pelvic Organs*," published in 1883 by Dr. Ambrose L. Ranney, of New York. This book, so far as I have been able to discover, is the best thing there is in print upon the subject. I shall have occasion to make frequent reference to this work, though it is not my purpose to describe to you the anatomy of the perineum, except in so far as it will enable me to show by diagrams what are thought to be the correct relations of the pelvic fasciæ and the muscles which they surround and reinforce; what points or parts in the genital tract are most liable to injury during delivery, and what my reasons are for operating for restoration of the parts in the manner that I do.

It is a noted fact that more than thirty per cent of all women who suffer from local disease are the victims of an injury received during childbirth, in the shape of a laceration, either external or internal or both; and that it is the results of these injuries, long unrecognized by the patient, which finally bring her to the specialist for relief.

Two questions naturally arise at this point: First, what is the structure of the tissues involved and what are they designed by nature to do? And secondly, what is the true nature of the injury done to the parts and which is its more important element? I am well aware that both of these are disputed questions, and that according to the answers we give ourselves for them will be the method of treatment or the operation to which we trust to effect repair. Otherwise in discussing Dr. Emmet's plan of procedure (see his paper read before the American Gynecological Society in

1883), doubt would not have arisen as to the correctness of his theory that, as a usual thing and as the condition which lay at the root of the trouble, the pelvic fascia at the sulci was torn away from the posterior vaginal wall. That the fascia covering the posterior vaginal wall and the sulci of the vagina is injured in many cases, there can be no doubt, but the extent of the injury done to it I have found depends entirely upon the amount done to the perineum proper, the form, depth, and direction of the laceration received; and I believe injury sus-

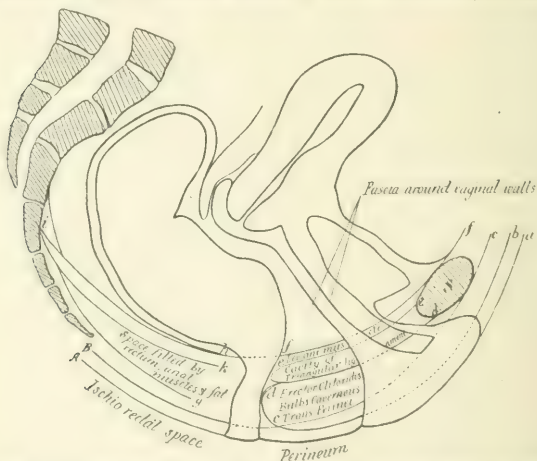


FIG. 1.—A a, line of skin; B b, line of superficial layer of superficial perineal fascia; c, deep layer of superficial perineal fascia; d, anterior layer of deep perineal fascia (triangular ligament of perineum); e, posterior layer of same; f, iliac fascia covering pudic region; i, same fascia from sides of pelvis splitting into two laminae; g, obturator fascia; h, recto-vesical fascia; S, symphysis pubis; k, fascia covering the levator ani muscle—on its lower surface.

tained by this pelvic fascia to be of a secondary sort and comparatively unimportant, as will be shown further on. As I have said, for a solution of all these as yet undetermined points, we must turn our attention carefully to the anatomy of the female perineum and learn from the best authors the structure and exact arrangement of the tissues which enter into its formation. To quote verbatim from works on anatomy would be tedious, and for that reason and for the still better one that illustrations are far more comprehensive and comprehensible, as a means of conveying ideas, than are words, I have had some

drawings made which show more clearly than I could express it the structural formation of the perineum and vagina, together with the relations of the pelvic fasciæ to them. (See diagrams Nos. 1, 2, and 3.) Figure 1 is a schematic drawing modified from one of Dr. Ranney's, designed to show the muscles which make up the floor of the pelvis, and whose tendinous aponeuroses unite at a common centre to form the perineal raphe and the tendinous centre of the perineal body. It also shows the relations of the pelvic and perineal fasciæ; and what tissues are most liable to be damaged in parturition.

Reference to Fig. 7, Hart and Barbour's work, gives as good a direct view of the muscular arrangement of the floor of the pelvis as I have been able to find. It will be seen, after re-

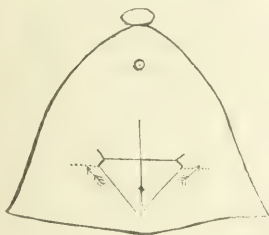


FIG. 2.

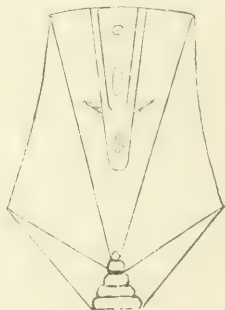


FIG. 3.

moving the skin and superficial fascia, in dissection, that the most superficial muscle is the transversus perinei, taking its origin from the inner side of the ischial tuberosity, and passing directly across the pelvic outlet to join in the central tendon with its fellow of the opposite side. Just beneath this muscle we find two larger muscles, the bulbo-cavernosus or constrictor vaginæ, and the erector clitoridis. The former takes its origin from the central tendon of the perineum in two muscular slips which pass along each side of the vagina to be inserted around the clitoris and urethra; while the latter, the erector clitoridis, arises from the inner side of the ischial tuberosity, passes forwards and downwards, and is inserted into the crus clitoridis. Between these two muscles and the levator ani, that most important muscle of the pelvic floor and outlet, lie the two layers

of the deep perineal fascia or the triangular ligament, separated by and inclosing the blood-vessels, nerves, and lymphatics which supply the perineal region. It will be seen as a dense fibro-elastic fascia (Fig. No. 2) stretching across the anterior half of the pelvic outlet, attached in front to the inner surface of the pubis, at the sides to the rami of the pubis and ischium, and at its base to the central tendon of the perineum, being continuous with the superficial perineal fascia which passes behind the transversus perinei muscle just described, and continuous also with the fascia which covers the levator ani muscle in front.

Above this triangular ligament the levator ani stretches from pubes to coccyx, and from one ischial tuberosity to the other; in a word, it constitutes the diaphragmatic muscle of the pelvis. It has an extensive origin from the inner surface of the front and sides of the true pelvis, its fibres passing inward and downward to join in the median line with its fellow of the opposite side through the medium of a tendinous raphé. Not infrequently this tendinous aponeurosis is absent, and the muscular fibres are directly united with one another. This is the chief supporting muscle of the pelvic outlet, and the one an injury to which involves the greatest amount of evil, as may readily be seen by reference to Fig. 3. It is with the anterior and middle fibres of this muscle that we have to deal in ordinary cases of external injury during parturition. The former set take their origin from the posterior surface of the pubes, and run directly back along the sides of the vagina to unite with the set from the opposite side in the tendinous centre of the perineum, thus forming a loop around the posterior portion of the lower part of the vagina (see Fig. 3). The middle fibres pass obliquely inward, and become united with the sides of the rectum, encircling the latter, and blending with the fibres of the sphincter muscles of the anus. This portion of the levator ani muscle lies upon and is connected with the triangular ligament, while above it from pubes to coccyx stretches the recto-vesical fascia, as shown in Fig. 1.

It will thus be seen that there are in the floor of the pelvis three sets of muscles, each surrounded by distinct layers of fascia, that all take their origin from the inner walls of the pelvis, converge to a common tendinous centre, and interlace with each other in the median line of the perineum. And also it

must be clear that if the central tendinous union were severed or broken through, each set from either side would contract by its own innate muscular activity from its free end at the centre towards its points of attachment at the circumference. The fascia covering these muscles, also intimately connected with them and making supporting partitions between them, in their various tendinous connections in the perineum, is of a fibro-elastic nature, capable of stretching, but not in itself contractile as a muscle is; and, therefore, when it is lacerated it changes its position only in so far as the muscles it is conjoined to change their positions when freed from all attachments at one end. The most important of these fasciæ is the deep perineal, or triangular ligament, previously described. It performs the threefold office of giving extra support to the muscles of the anterior half of the pelvic floor, of protecting and supporting the blood-vessels which cross the perineum between its two layers, and lastly of aiding in the support of the urethra and vagina, both of which pierce its fibres; but it does not do the latter wholly, only as it supplements certain muscles.

Furthermore, what I may call the warp fibres of this fascia, those which give it its strength of tension, extend from side to side of the pelvic outlet, like the strings of a piano. Now if it were to sustain an injury, as a rent, running in this same direction from the sulci across the posterior vaginal wall, it is evident that there would be no tendency to a separation of the lips of the rent, nor to a dropping of the lower dependent part, unless the muscles were injured at the same time. And union would soon take place along the torn borders and make it quite intact again. But if, as is more usual, the rent should run in an antero-posterior direction, and across these fibres of tension in the triangular ligament, *that* would not occur without involving the tendinous union of the two opposite and opposed sets of muscles; and then an immediate separation of the edges of the rent by muscular contraction would be the result, destroying the support of the pelvic floor. Hence it is that I consider the fascia as of only secondary importance in supporting the pelvic outlet. An opinion to this effect, admirably stated and illustrated, is quoted by Dr. Emmet in his volume on "*Gynecology of 1884*," from Dr. B. E. Hadra, of San Antonio, Texas, published in the *AMERICAN JOURNAL OF OBSTETRICS* in April of the same year.



Dr. Emmet then remarks that he has recognized the separation of the muscles from loss of their tendinous union, as so graphically described by Dr. Hadra, but that he has had no means of determining accurately the tissues involved; and later on he adds that he has not yet had occasion to attempt the uniting of the edges of these separated muscles. He turns from the matter at that point to consider his new method of operation which, with his characteristic modesty, he suggests as one which had given useful results in his hands.

I am now in a position to deal with the second question asked in the early part of this paper: What is the true nature of the injury sustained by the perineum in an ordinary laceration? That depends, some one will say. But it is not the rare and wonderful that I wish to speak of, but the regular every-day laceration which we see by the dozens in daily practice, and in every hospital clinic. In such cases is the injury a tearing away of the fascia from the sulci and posterior wall of the vagina in a direction transverse to its vulvar outlet; is it a laceration of the sulci of the vagina involving the triangular ligament and levator ani in a direction transverse to their fibres; is it a subcutaneous laceration of the tissues of the perineum leaving an unscarred vaginal mucous membrane, and thereby escaping observation; or is it that old-fashioned form of laceration suffered from by daughters and mothers and grandmothers, running back for centuries, which commences just within the fourchette in or near the median line, and extends either directly back, or in angular direction towards one or the other sulcus of the vagina, involving in each case only enough parting of tissue to allow of the passage of the head and shoulders of the child?

I am compelled to believe it is the latter which is the essential and not the incidental injury in the ordinary laceration, and it is in this that I am opposing my view to that of Dr. Emmet, and I do so with all respect to his great talents and his eminent services in this department of surgery.

The other forms just mentioned are undoubtedly met with occasionally, the most frequent being the subcutaneous laceration. I call particular attention to the fact that an internal laceration, which originally ran directly through the perineal centre from before backwards, in course of time would be followed by rectocele, and from this distention, together with the

pulling of the liberated muscles from either side, the same rent would soon come to have a transverse elliptical shape, and would look as if it were the result of an actual transverse laceration. I have seen two cases where the rent really ran transversely across the vaginal wall, one inch within the vulva, the perineum not being lacerated. In these cases, there was no prolapse or rectocele, and the cicatrix where union took place made a better resistance to the force exerted in straining than would have the healthy tissues.

If my assumption be correct, that, except in a certain class of cases (not necessarily rare but infrequent), the injury involves the superficial structures and perineum proper, with the muscular gear there situated, before reaching the posterior vaginal wall, a glance at the drawing (Fig. 1) will readily show that tissues are injured in each of the three degrees of laceration, into which, for convenience of description, authors have divided their accounts; and it will be evident what the relative importance of each element in the injury is, in giving the patient subsequent pain and local disorder.

In that of the first degree, where only the skin and a small part of the perineal body are ruptured, the inconvenience to the patient is but slight, and the muscular separation and the falling apart of the labia will correspond only to that portion of the central tendon which unites the fibres of the transversus perinei and a portion of the fibres of the bulbo-cavernosus. Here rectocele will not be present in the majority of cases, although it may occur.

If the injury is of the second degree, involving the whole perineal body down to the sphincter ani, the matter is much more serious, for here the most important connection of the muscles of the pelvic floor is ruptured—that central tendinous attachment of all of them to each other. Each muscle then contracting towards its remaining point of attachment, as I have said before, the labia are drawn apart, the perineal portion of the triangular ligament distends, support is taken away from the anterior rectal wall, and the remaining thin septum has to withstand the force of exertion at stool or of other physical efforts. The result can be readily anticipated. Rectocele makes its appearance, pulling on the posterior vaginal wall, and so dragging the uterus to a lower level in the pelvis (but not if it is bound fast in its place by pelvic adhesions left over from

some inflammation). The tension of the shorter anterior vaginal wall is necessarily lessened at the same time, and cystocele creeps on apace.

As laceration in the third degree, involving the sphincter ani and a portion of the rectal wall, requires a different method of procedure for its restoration, I do not propose to discuss it in this paper, though I wish to make one comment.

It has been claimed as one of the most positive evidences that the perineal body is no support to the uterus that, when there is a laceration of the perineum through the sphincter ani and the rectal wall, prolapsus uteri seldom attends. I cannot understand why this should be thought a final argument, when it is evident from a moment's reflection that rectocele or prolapsus uteri would seldom attend laceration in the second degree, as a result of mere gravitation, only that other forces come in to cause it in either case.

As it is, in a laceration of the second degree, when the woman strains at stool or in lifting, the force is exerted in a line parallel with the curve of the pelvic outlet, and is therefore transmitted to the perineal body at the point where the rectum curves back to the anus. Then the recto-vaginal septum, thinned and weakened as it is at that point, easily bulges forward under pressure from behind into a large pouch. As this pouch is formed, the whole septum, the posterior wall of the vagina in other words, is dragged down, and so indirectly the uterus is pulled into the axis of the outlet, or even into complete prolapse.

Now, on the other hand, if the laceration has extended through the anus and up the rectum to a point intersected by the axis line of the pelvic outlet, then all force exerted by physical efforts will meet with no resistance at the point where the perineal resistance should be, and consequently there will be no rectocele, and no dragging on the uterus. Not only that, but the cicatrix at the top of the rent in the posterior wall, filling it in like a spool held in the cleft of the fingers, is usually a very dense structure and adds considerably to the rigidity of the posterior vaginal wall.

I prefer to leave the matter at this point, only remarking that no operation on the peritoneum which is not directed to a restoration of parts still present to their natural condition can be said to have a sound anatomical basis.

The operation which I am about to describe and show diagrams of is one designed to restore the parts to their normal condition by the simplest method possible, and it is one that I was led to perform after giving the operation by Dr. Emmet a thorough trial, extending over a period of six years and getting results which were, to me, unsatisfactory. To dispose of a rectocele caused in the manner I have described by denuding and tucking in mucous membrane in the sulci, thus drawing the wall straight between the two puckered-in portions at the sides, would certainly not restore the dilated and thinned tissue of the recto-vaginal septum to its normal thickness at the centre of the posterior wall, where pressure is going to come again just as before the rectocele began to be formed.

Furthermore, the deep perineal sutures made externally, as the second step in the Emmet operation, cannot return the separated fibres of the central tendon to connection with each other for this reason. In Emmet's operation, and in all others where denuded mucous membrane in the vagina is brought together so as to make more or less of an infolding at the middle of the recto-vaginal septum, this fold interposes itself between the edges of the tendinous aponeurosis of the separated sides of the diaphragmatic muscle (even if they *are* pulled together), and prevents their union with each other. The essential point in the operation which I have devised is to employ a stitch which shall draw up all the posterior mucous membrane at the middle of the posterior wall, so that none of it can interpose itself when afterwards I draw together into apposition the parts containing the tendinous centre of the muscular floor of the pelvis. The horizontal stitches taken in the Emmet and other operations, when the denuded surfaces are brought together, and the ends of the sutures are pulled tight from below, cause the infolded mucous membrane to take a direction downward, thus also increasing, in a space which is very limited in depth, the amount of tissue which is interposed between the edges of the muscular aponeurosis. The infolding being turned upward in my operation, as will be shown, the wall of the vagina retains its normal upward concavity, whereas with a transversely passed suture it quite easily is made to take on a convexity again, and rectocele is then apt, on that account alone, to return—a thing which I have several times seen take place after performing the Emmet operation. The stitch which I

shall show, which pulls the central puckerings from below upward, leaves less to fall down toward the vagina in the shape of a rectocele, whereas, in the transverse suture, the posterior wall tends to be drawn down towards the vaginal outlet as the sutures are pulled tight, the tissue below the rectocele making a fixed point toward which the looser tissue of the rectocele is drawn.

Not many lacerations occur which require operation that are not accompanied by more or less of rectocele; and the twofold object to be gained by operation is to put that rectocele back into the vagina to the point it originally started from, and to restore the lacerated fascia and muscles which allow it to occur back to their proper connections in the recto-vaginal triangle. For that purpose, in all my operations during the past two years, I have resorted to the following method: The labia are separated with the fingers, and with a tenaculum the rectocele is drawn down until slight resistance from above is felt. The crest of the rectocele is then snipped slightly in the median line, as a guide to the point to which the denudation should be carried. The labia are then brought into apposition, and the points noted and snipped where the remains of the hymen on each side come together. The two latter points mark the height to which the semicircular denudation should be carried upon the external genitals or outer portion of the perineum, also the points from which the triangular denudation of the posterior wall should start as a base, the apex at the centre of the posterior wall reaching a much higher point. When the denudation made in this form is brought together from side to side, a long suture results, giving a thickened cord down the centre of the posterior wall, where strength is most needed, while the peculiar stitch employed insures the whole being well drawn up from below. Only the mucous membrane should be cut away, and care should be taken not to sacrifice any of the submucous tissue. I am in the habit of starting with a narrow strip just the depth of the mucous membrane, and cutting back and forth across the rectocele without severing the strip, but rather using it as a form of tenaculum to elevate the edge of the mucous surface, and allow me to work without interruption until the whole surface is denuded, and I hold the tissue which has been cut away in the shape of a long strip of mucous membrane, the denuded surface appearing as in Figs.

Nos. 5 and 8. The suture which I have used has been the Am Ende's No. 5 catgut, prepared in juniper.

It is my belief that the reason why operators have occasionally met with failure in the use of catgut has been that they have soaked the catgut in some solution of either carbolic or bichloride for some time before using it. This I have never done, but have threaded my needle to the catgut while it was still lying in the juniper solution, and have taken it directly from there to insert into the tissues, without drying off the ex-

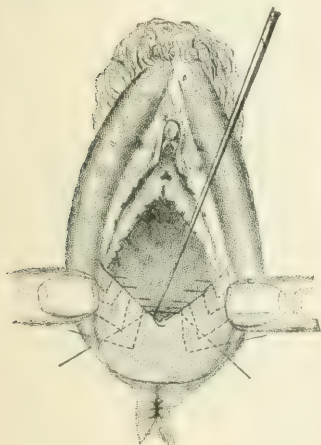


FIG. 4.



FIG. 5.

cess of the solution. I have never had a wound break open from too early absorption of the catgut, but have found that the latter remains in the wound for from seven to nine days. When the wound is ready for the sutures, the left forefinger is passed into the anus and carried up to the apex of the denuded surface, and the first suture is introduced at that point in the direction indicated in Fig. No. 5, passing from behind forwards or from above downwards to the median line of the denuded surface. At this point the needle is brought out and again inserted an eighth of an inch from its exit and carried up on the



opposite half of the cut surface in a direction from before backwards or from below upwards. When the first suture has been passed in this manner at the apex of the cut, it is tied securely: it then acts as a fixed point from which to work. The rest of the sutures are made with an over-and-over stitch, each inserted in the same manner as the first, and as each one is drawn tight, it follows from their being thus inserted in the form of a sharp-pointed triangle whose apex points out the vagina, that traction will draw the apex attachment of the stitch upward and backward towards its two basal attachments. As this tissue is thus



FIG. 6.



FIG. 7.

drawn up, the rectocele returns to within the vagina to the point where it originally came from, as seen in Fig. No. 6. At the same time, the even more essential point in the operation is secured, namely, that of drawing up tissues which will otherwise sag down between the edges of the perineal raphe when I come to the second part of the operation. The vaginal outlet is also narrowed.

As each suture is drawn tight, the point of a probe is placed against the rectocele just beneath the suture and the tissues are tucked back as shown in Fig. 6. As the closure pro-

ceeds from the apex towards the base or outlet, the sutures are passed at a little less of an angle until, when abreast of the remains of the hymen, as in Fig. 5, they are passed nearly transversely across.

When this point is reached, the inside work is finished. The suture is then passed twice through the same needle track and so made fast; then the course of the suture is changed, and a number of buried sutures are passed through the fibres of the



FIG. 5.

separated central tendon of the perineum. When brought together they come into full contact, and after healing is complete, the whole diaphragmatic muscle acts as firmly and as strongly as if rupture had never occurred. These deep sutures, which are not different from those used in other operations, extend from the remains of the hymen down or back to the end of the rent, and pass deeply enough to reach its bottom and bring the torn surfaces into full apposition, as seen in Fig. No. 7. Then

with an over-and-over suture I come back again to where the deep sutures began, with superficial sutures as in Fig. No. 9.

A Sims' speculum is then introduced, the parts are inspected for bleeding points or gaps in the mucous membrane, and are then thoroughly dusted with iodoform, as the only dressing needed. I then let the wound rest for four days without inspection, unless there is a rise of temperature. The wound is quite accessible to inspection in case there were need, but the form of suture used does not irritate the tissues, and causes less suffering than silver sutures.

I put forward this operation as one which has given perfect



FIG. 9.

results in my own experience, confident that a trial will sufficiently prove to any one the complete restoration of the parts which it affects.

At the same time, I am conscious of how much I owe to the studies and expositions of Dr. Emmet, which extended over a period preceding for many years my own entrance into this field. Indebted to him as a pupil of a master in science, it is with the utmost respect that I offer, for what it is worth, my belief that the more important part of this injury of laceration in childbirth is that received by the tendinous union of the muscles forming the floor of the pelvis.

THE VALUE OF "HYSTERORRHAPHY" IN THE TREATMENT  
OF RETROFLEXIONS OF THE WOMB.<sup>1</sup>

---

BY  
CHARLES CARROLL LEE, M.D.,  
Surgeon to the New York Woman's Hospital, etc., etc.

---

GENTLEMEN:—When I was lately asked by your honored Chairman to read a paper this evening before the Obstetric Section of the Academy, I realized that the compliment was no empty one. For, in these days of constant scientific advance, to command attention one must have something well worth the saying; and, before an audience of critics as competent as this, the task becomes proportionately more difficult.

But I have thought that a comparatively new surgical procedure which, on the one hand, is not very difficult of performance, and, on the other, affords certain relief in cases heretofore intractable, would enlist your interest for the short time during which I shall ask your attention.

The name "hysterorrhaphy"—which literally signifies only suturing the uterus—has been given by my friend, Dr. Howard A. Kelly, of Philadelphia, to the process of sewing a displaced uterus to the anterior wall of the abdomen. Dr. Kelly, whose enthusiasm in gynecology and whose operative skill are equalled only by his modesty, did me the favor to discuss with me this proposal on several occasions before putting his views in print. In the *AMERICAN JOURNAL OF OBSTETRICS* for January, 1887, will be found an interesting article from his pen, in which he condenses the brief history of the operation up to that date, quotes most of the few recorded cases, and discusses the rationale and technique of the procedure.

For all interested in the subject of hysterorrhaphy, this paper of Dr. Kelly must remain an important landmark for a long time to come. I have freely used the substance of it in what I now have to say.

For ten years or more, efforts have occasionally been made to fasten a displaced uterus to the abdominal wall as a supplement to laparotomy performed for other purposes.

<sup>1</sup> Read before the Obstetric Section of the New York Academy of Medicine, October 25th, 1888.

Thus in February, 1880, Mr. Lawson Tait ("Dis. of Ovaries," Am. ed., pp. 94 and 95) narrates a case of ovaritis complicated by persistent retroflexion, in which, "after removing the appendages, and while closing the wound," he "passed a stitch through the fundus uteri and fastened it up to the abdominal wall."

In another similar case of chronic interstitial ovaritis, complicated by fundal metritis and retroversion, he repeated the same expedient of April 9th of the same year. Both cases recovered, and in both the uterus remained in situ.

In 1885, Koeberlé published in Billroth and Lücke's "*Handbuch der Frauenkrankheiten*" (Bd. I., 767, Stuttgart, 1885) the report of a case in which, in 1877, he had removed the uterine appendages; and, raising the womb from Douglas' pouch, had sewed the stumps of the appendages into the abdominal incision with good effect.

Kelly's first operation was done in 1886 upon a patient who had undergone two previous laparatomies during the two preceding years. Here, after removing a right hydro-salpinx, he ligated the right *cornu* of the uterus at two points a half centimetre apart, "and between the two passed two silk sutures down through the uterine tissue and up into the abdominal wall," tied them, and thus fastened "the displaced uterus in anteposition about four centimetres above the pubis to the left of the incision" (loc. cit., p. 35).

Similarly Dr. T. Gaillard Thomas writes me that, for seven or eight years, he has been occasionally in the habit of securing the womb to the abdominal wall as an adjunct to removal of the appendages, etc. Dr. Boldt and Dr. Coe have also operated, the first of these repeatedly, in this city. But, so far as I know, the first person to urge hysterorrhaphy as a primary operation, that is, as a laparotomy for the sole purpose of securing in anteposition an intractably displaced uterus, was Professor Olshausen, of Halle, who, in the fifty-ninth meeting of the Gynecological Section of the German Naturalist's Society held at Berlin, in September, 1886, read an important paper on "Laparotomy for Prolapsus and Retroversion of the Womb" ("Ueber Ventrale Operation bei Prolapsus und Retroversio Uteri"), in which he narrated two apposite cases, and so strongly urged its trial as to induce Säger of Leipsic and other German operators to imitate his practice.

One of Olshausen's operations was for retroflexion with adhesions, one for excessive prolapse; both had resisted all other kinds of treatment. The first succeeded, the second failed; but the principle of the new operation and its feasibility were clearly demonstrated, and it remained for experience alone to prove what its utility might be.

In passing the suture from the *cornu uteri* to the abdominal wall, Olshausen thought much danger menaced the deep epigastric artery; this I have not found to be the case. He preferred silk-worm gut, as more reliable than catgut, and as least likely to prove an irritant, but proposed to use thick silver wire in future. He advises several sutures to affix the uterus to the abdominal wall, passing them either through the *cornu uteri* or through the broad ligament in such way as to cause them to encircle the round ligament. If the patient be past the menopause, the Fallopian tube may also be included in the enveloping knot; otherwise it is to be carefully avoided.

In the *Centralblatt für Gynäkologie*, No. 2 et seq., for 1887, Sänger, of Leipsic, discusses this subject with much thoroughness and force. This paper is termed the "Operative Treatment of Retroversio-Flexio Uteri," in which mainly the "direct" method of dealing with this lesion is considered. Under this designation are included:

1st. Von Rebenau's method of resecting the anterior wall of the cervix.

2d. Alexander's operation of shortening the round ligaments.

3d. Laparatomy, followed by ventral fixation of the uterus.

The latter is the special object of the paper.

Seven personal cases are narrated, five of which were what I term "secondary," that is, cases in which the fixation was supplemental to ovariectomy or castration; and two were "primary," or cases in which the sole object of the laparatomy was the hysterorrhaphy.

This process, or "ventral fixation," as Sänger calls it, is thought the only direct operative means by which the uterus can be maintained anteverted; and he strongly urges it, by Olshausen's method, "as a secondary step to every laparatomy for removal of the diseased appendages where the uterus, whether adherent or not, lies retroflexed." In primary cases, he deems the severity of the symptoms the only index of its justifiability.



In comparison with it, the Alexander operation is condemned; and still more strongly Klotz's method of partial hysterorrhaphy, aided by a supporting glass drainage tube behind the uterus, is criticised and rejected.

Without further quotations, I will now briefly outline the cases in which I have myself performed hysterorrhaphy; premising that each is an instance of the primary operation. I waive all reference to cases where it was done as an adjunct to other conditions.

CASE I.—J. C. F., aged 36, married fifteen years, multipara, entered my service in the Woman's Hospital December 18th, 1887. She presented marked laceration of the perineum, with rectocele, a slightly torn cervix, retroflexion of the uterus, with firm adhesions. Has constant backache, rectal tenesmus, dysuria, dysmenorrhea; general health much broken; unable to do any domestic work. Two months of constant treatment failing to dislodge the uterus, I decided to break up the perimetric adhesions and perform hysterorrhaphy; for no project of vaginal support afforded a prospect of relief.

Operation February 22d. 1888, Drs. Hanks and Swasey assisting. Laparotomy as usual, with short incision low down, just above the bladder. Adhesions so dense that, after breaking up all that seemed possible, I could only bring up the uterus by the aid Dr. Swasey rendered by elevating it on a sound from the vagina. Silk-worm gut sutures passed as described and firmly tied. Little or no hemorrhage. All antiseptic precautions used. External wound closed with fine Chinese silk, and a firm vaginal tampon used.

Reaction normal, temperature reaching  $100\frac{1}{2}^{\circ}$  F. on third day as the highest point. No complication except a little bloody oozing from wound on second and third day.

Kept in bed four weeks. On April 9th, after being up two weeks, the uterus was quite normal in position and size. Discharged, cured, May 23d, with a precautionary pessary.

I have since repeatedly seen this patient and she continues quite well in every respect.

CASE II.—F. S. P., aged 30, married eight years, primipara; constantly ill since the birth of her only child six years ago.

Sent me by a medical friend in Minnesota, and entered the Woman's Hospital February 7th, 1888. Old salpingitis, with recurrent ovaritis; retroflexion of uterus, with most extensive perimetric adhesions. Bedridden; dysmenorrhea. Had been for five years previously under constant treatment by eminent gynecologists.

I thought the appendages would probably need removal, and decided at all events to break up the adhesions, secure the uterus in anteifixation, and then be guided by the appearance of the

tubes and ovaries. Laparotomy as before with this object, on March 29th, 1888.

Operation exceptionally difficult; peritoneum thickened, vascular; all pelvic organs adherent from repeated attacks of peritonitis. With much effort and much venous hemorrhage from torn adhesions, the uterus was brought up and secured, as before, with fine Chinese silk. The appendages were now examined and showed so little evidence of structural change that I should have left them, had not the patient begged that they might be removed to force her menopause, unless I could be certain that they would give no trouble. As no such guarantee could be given, I removed them. Drainage tube. This patient made a slow and tedious recovery, the temperature running up to  $102\frac{1}{2}$  on the third night after operation, and for a week remaining above  $100^{\circ}$  F. Drainage tube removed on fourth day. She gradually reacted and was discharged on May 4th, 1888. Uterus remained quite *in situ*, and all the pelvic symptoms slowly abated.

CASE III.—Bertha K., aged 24, single, multipara, was sent me by a medical friend and entered Woman's Hospital April 28th, 1888. Ill for twelve years, when menstruation began. History of old peritonitis; retroflexion with fixation of womb and prolapse of both ovaries; unable to wear a pessary and unimproved by any previous treatment. Excessive dysmenorrhea, dysuria with increased pain in defecation; constipated, unable to walk much; hysterical. Pelvis small and narrow; abdominal walls tense and muscular.

Although a most unpromising case, I decided to attempt hysterorrhaphy with removal of the ovaries if they were marked by disease; but in this case the patient, unlike the former, was solicitous they should be left if possible.

Laparotomy, May 17th, 1888. Operation very difficult and protracted, lasting three-quarters of an hour. Ovaries more healthy than was expected, not removed. Only one broad ligament could be brought up and sutured, all my efforts failing to secure the other or to get the fundus uteri into the abdominal wound, even when pushed up from the vagina.

Silk-worm gut employed for suture. Drainage, as there was much oozing. Convalescence easy and uninterrupted, the temperature not rising above  $100\frac{1}{2}^{\circ}$ .

For a time this patient, who was discharged June 15th, 1888, did well and seemed likely to recover; but, during the past summer, she has relapsed and is still an invalid. The womb is dragged laterally by the single suspending suture and there is much backache. Dysmenorrhea is less.

CASE IV.—Alice K., aged 29, married nine years, multipara, a thin hyperesthetic German woman, was sent me from Brooklyn and entered the Woman's Hospital, May 15th, 1888. Retroflexion with fixation; old peritonitis; dense adhesions; perineum and cervix slightly torn; prolapse of tubes and ovaries. Suffering

constant; general health frail for last four years. All this time has had fruitless treatment.

Hysterorrhaphy, June 4th, 1889. Short incision just above bladder; abdominal walls thin and relaxed. The adhesions were broken up, and with the aid of Dr. Emmet who was especially interested in this case and who pushed the uterus up from the vagina, the fundus was easily raised and two sutures of silk-worm gut were passed through the proximal end of each broad ligament, enveloping the round ligament, firmly tied, and then through the parietal peritoneum and tied again. Abdominal wound closed with silk; no drainage. Recovery rapid without drawbacks; uterus in perfect position. Discharged with precautionary pessary on June 30th, 1888. Through the ensuing summer a medical friend in Brooklyn saw her for me occasionally and removed the pessary as useless. Quite lately I have seen her and found the womb in perfect position. Patient well.

CASE V.—A. H. M. (private case), aged 37, primipara, married eleven years, ill since birth of her child ten years ago. Two subsequent abortions followed by recurrent attacks of what is supposed to have been acute peritonitis. Perineum moderately torn, cervix nodular and tender, uterus retroflexed and adherent; ovaries prolapsed and exquisitely tender. Has had much useless treatment. Hysterorrhaphy proposed and performed on June 26th, 1888. Adhesions dense; uterus raised with difficulty, but finally secured by a single suture of Chinese silk through each broad ligament. Fixation perfect. Convalescence uneventful; temperature going on one day to 101° F. In four weeks the patient left town for the sea shore and now seems quite well.

CASE VI.—L. S., single, nullipara, aged 27, ill six years, was admitted into the Woman's Hospital September 20th, 1886, two years ago. She had constant dysmenorrhea and menorrhagia with a retroverted uterus and prolapsed appendages. Two previous attacks of peritonitis had occurred and been followed by ovaritis which still existed.

As she was a helpless invalid and rendered more ill by each recurrence of menstruation, I decided, as a last resource, to remove the appendages.

Laparotomy for this purpose was performed on November 11th, 1886; and she was discharged much relieved on December 28th.

She continued, however, to menstruate regularly and profusely, although both Fallopian tubes and ovaries had been completely excised; and during the following summer, in Canada, she suffered a third attack of perimetritis which left the uterus retroflexed, adherent, and almost immovable. The dysmenorrhea now returned and her health became almost as bad as before.

For this condition she was readmitted to the Woman's Hospital September 15th, 1888; and, after some preliminary treat-

ment, a fresh laparotomy for the sole purpose of hysterorrhaphy was done on October 4th, 1888. Very dense adhesions were broken up behind the uterus and the stumps of the tubes, which latter were attached to the bottom of the pelvis; and the womb was sewed into the abdominal wall securely as heretofore described. Fine Chinese silk was used—two sutures on either side of the fundus.

She made a prompt recovery without a drawback excepting a stitch abscess which caused a temperature of  $100\frac{1}{2}^{\circ}$  F. on the fifth day. Too short a time, of course, has as yet elapsed to speak of the final result; but, so far, the womb remains absolutely in situ and the patient is comfortable; while, even in bed, she previously suffered constant pain in the left side.

To recapitulate:

I have thus far performed hysterorrhaphy as a *primary operation* six times, with four results so good as to be commonly called cures, one failure (Case III.), and one as yet undecided.

As to the *justifiability* and proper *indications* of hysterorrhaphy as an elective operation I have only this to say:

1. Ten or fifteen years ago, as laparotomy then was practised, hysterorrhaphy would have been indefensible. At the present day, this cannot be said. If sometimes difficult of performance, it is certainly less dangerous than extirpation of the appendages or of any morbid growth, while the suffering it aims at relieving is often quite as great.

It is incontestable that cases occur in practice where retroflexion of the womb, with fixation, causes untold suffering and finally ruins the patient's health; where pessaries cannot be borne, and would do no good if they could; and where it is absurd to remove the appendages, for they are quite healthy. In such cases, hysterorrhaphy finds its proper field; and, unless the uterine massage of Dr. Th. Brandt, of Stockholm, be found to supplant it, the operation must remain a necessity. Of the value of massage so applied I am incompetent to speak, and, in spite of the interest it has lately excited in northern Europe, I have felt sceptical as to its claims.

2. Of the relative value of hysterorrhaphy and the Alquié-Alexander operation I think it useless to speak: for, in spite of the comparisons instituted by Dr. Kelly and Prof. Säger in the papers quoted, they seem to me to be essentially distinct and irrelevant.

The most necessary condition of cases suitable for Alexander's operation is that the womb should be movable and non-adherent; otherwise no traction upon the round ligaments could dislodge it. *Per contra*, if there be no adhesions or fixation, even the most enterprising laparatomist would hesitate to advise a primary hysterorrhaphy.

The cases suitable for it, therefore, must be necessarily limited: they are those in which fixation of the womb from adhesions exists in a malposition, and which resist other milder modes of treatment.

The technique of the operation has been so fully described by Olshausen, Kelly, Sanger that it needs no repetition here. I shall only say, in conclusion, that, after a number of experiments, I think the sutures should *not* be passed through the fundus uteri, which is often excessively vascular and bleeds like a sponge, but through the proximal end or edge of the broad ligament, so as to encircle the round ligament; and, above, not only through the parietal peritoneum, but through the supra-peritoneal fat.

And while silk-worm gut answers well, if previously soaked in hot water to make it flexible, the very best suture material we as yet possess is fine Chinese twisted silk, rendered carefully aseptic before use.

Catgut of any strength or quality is inadmissible from its liability to be rapidly absorbed; and silver wire of any size is much more likely to tear the broad ligament than to act kindly. In applying the suture, the aim should always be to have it remain permanently and become encysted. While separating adhesions, the fingers only should be used, and those about the distal ends of the broad ligaments torn through first. Then, as the uterus is drawn up toward the abdominal wall, one can better distinguish the utero-sacral ligaments from dense adhesions in the bottom of the peivis. Serious and very intractable hemorrhage may come of neglecting this distinction.

The operation is only to be done with all antiseptic precautions, and its subsequent treatment is like that of every laparotomy.

Thus far, no death from hysterorrhaphy has been recorded.

79 MADISON AVENUE, Oct. 25th, 1888.

THE FUNCTION OF THE COCCYX IN THE MECHANISM OF  
LABOR.<sup>1</sup>

BY

HENRY D. FRY, M.D.,  
Washington, D. C.

It may seem like "carrying coals to Newcastle" to introduce for discussion a subject connected with the mechanism of labor, yet there are many points relating to the phenomena of child-birth which are viewed differently by our most recent obstetric writers.

Little more than half a century ago, the profession were entirely ignorant of the laws governing the expulsion of the fetus through the maternal passages, and the act was as simple to the medical mind of that period as was the extrusion of a blood clot or uterine polypus. Step by step, mysteries were unravelled, and each successive investigator added his quota of knowledge to the stock already acquired; false impressions were corrected, and now the laws governing the phenomena of child-birth form a mechanism which challenges nature to show another more wonderful, or one which more beautifully demonstrates her resources for adapting a means to an end.

In order to impress upon students a mental picture of the various movements imparted to the fetus during the mechanism of its birth, obstetric writers are accustomed to describe five successive steps or stages as *flexion*, *descent*, *rotation*, *extension*, and *external rotation*. Cazeaux, Charpentier, Barnes, and Parvin add a sixth, the expulsion of the body. Playfair likewise makes six stages, describing as his third that of *levelling* or extension of the head in the cavity of the pelvis.

These are not so many separate or distinct acts executed with the precision of well-drilled troops, but they pass imperceptibly from one to another, and often combine two or more movements at the same time. Let us define what we understand by the expression "stage" of the mechanism of labor.

Any distinct movement of the fetus during its passage through

<sup>1</sup> Read before Washington Obstet. and Gyn. Soc. meeting, June 15th, 1888.



the parturient canal may be termed a stage when it has the effect of : 1st, diminishing the diameters of the presenting part, and

2d, bringing the longer diameters of the fetus coincident with the longer diameters of the pelvic canal.

These are the fundamental principles involved. Accidental movements imparted to particular cases in consequence of anomalous conditions, either of the fetus or pelvic canal, are excluded.

The first of these objects (diminution of the diameters of the presenting part), is confined to the movements of the head—the hard and incompressible nature of which demands movements of flexion and extension in addition to that of rotation. The latter movement is common to all portions of the fetal body, and accomplishes the second object—that of bringing the longer diameters of the fetus coincident with the longer diameters of the canal.

Moreover, flexion and extension are intimately associated with descent, the occiput or bregma descending in conjunction with the respective movements.

Descent of the occiput beneath the pubes is associated with extreme flexion of the head at the pelvic outlet, while extension sweeps the face over the perineum and delivers the head.

These final steps which free the head from the pelvic outlet bring us to the consideration of *the function of the coccyx in the mechanism of labor.*

No function whatever is attributed to this little bone, situated at the extremity of the spinal column, except to get out of the way of the advancing head, and thereby to increase the antero-posterior diameter of the inferior strait. It is not supposed to possess any obstetrical importance unless it rudely refuses to step aside.

Premature ossification of its articular cartilages is mentioned as a source of dystocia, and instances are reported of fracture of the bone.

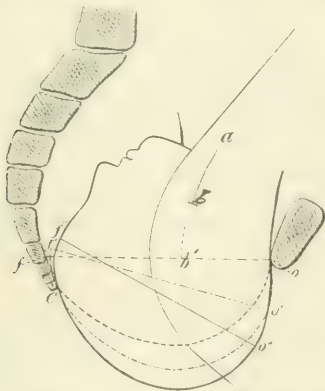
I believe, however, that the coccyx has a distinct function to perform, and only after having performed it, does the bone recede before the advancing brow. To be placed at the pelvic outlet merely as an impediment, without having some office to perform, is contrary to nature's law.

In order to explain this function as I interpret it, the accom-

panying diagram is introduced to represent the movement of extreme flexion at the outlet.

The forces producing flexion and extension of the head are recognized to be the expulsive power of the uterine and voluntary muscles acting upon the fetal ovoid on one hand, and the opposing force or resistance offered by the structures to the passage of the head on the other.

The line  $a b$  represents a part of the spinal column of the fetus ;  $o f$ , the occipito-frontal diameter of the fetal head ;  $b'$ , a point on this diameter opposite the foramen magnum ;  $o b'$ , the short end of the lever extending from the occiput to a point opposite the articulation of the spinal column ; and  $f b'$ , the



long end of the lever extending from the brow to the same point.

During uterine contraction the head is forced downwards by the power acting in the direction of  $a b$ . Flexion or extension results according to the amount of resistance offered at the end of one or the other lever, that lever descending which meets least resistance. With equal resistance at both ends,  $o$  will descend, and flexion occur because  $o b'$  is the shorter lever. This movement takes place early in labor, and facilitates the passage of the head by substituting a shorter diameter for the occipito-frontal.

In occipito-anterior positions, which we are now considering,

the head passing downwards and backwards reaches the inferior strait in a position of partial flexion. The occiput (*o*) is behind the symphysis, the frontal end (*f*) of the occipito-frontal diameter is in the hollow of the sacrum, and the brow impinges against the coccyx (*c*). Further descent in this direction is prohibited by the coccyx, and the long end of the lever *b' f'* is held up by the pressure of the bone against the brow at *c*. In consequence of this increased resistance posteriorly, the force of the uterine contractions is now exerted upon the short or occipital end. The head moves on its transverse axis, the occiput slips down under the symphysis to *o'*, and then, by an exaggeration of the same movement, becomes fixed at *o''*.

The long end of the lever ascends slightly to *f''* and later to *f'''*, whilst the body of the fetus being forced down in the direction of the axis of the pelvic canal, the sternum approaches and later is in contact with the chin.

The head is now at the inferior strait *in a position of extreme flexion*, with the brow still kept up by the resistance of the coccyx. The occiput has slipped *downwards and backwards* and the nape of the neck is applied to the symphysis. The sub-occipito-bregmatic diameter engages at the outlet.

The short end of the lever (*o''*) being fixed, motion is transferred to the long end *f''*.

The coccyx has performed its function and recedes before the advancing brow, the perineum distends as the chin leaves the sternum,<sup>1</sup> the occiput rotates around the symphysis, and the head is born by a final movement of extension.

According to this description, *the function of the coccyx is to oppose the descent of the brow, thus forcing down the occipital end of the lever beneath the symphysis; in other words, to produce extreme flexion of the head at the pelvic outlet.*

For several years I have taken advantage of every opportunity to examine the final movements which give birth to the head, and claim to have clearly recognized, in all cases of occipito-anterior positions, this flexion at the inferior strait, and further to attribute it to an arrest of the brow by the coccyx.

The method employed is as follows:

Having taken the precaution to see that the rectum is empty,

<sup>1</sup> Tarnier and Barnes both claim that the chin is applied to the sternum until the bregma is escaping from the vulva.

the patient is placed upon her back with the knees elevated. When the head has descended into the pelvic cavity and is approaching the inferior strait, pass the index-finger of the right hand into the rectum until it comes in contact with the coccyx. Each uterine contraction approximates the head to the finger until finally it is driven forcibly against it. During the interval between the contractions, the finger readily passes between the coccyx and the head, but at each pain the finger is pushed aside, as the bregma is forced against the bone. Now let the thumb of the same hand be inserted between the vulva and behind the symphysis until it comes in contact with the occiput. Both ends of the lever are now placed under observation and the movement of either is readily recognized. The head occupies the following relations to the pelvic outlet: <sup>1</sup> the occiput is behind and slightly to the left of the symphysis, the biparietal suture runs, not in the antero-posterior diameter of the outlet, but crosses it as it passes backwards and to the right. The anterior fontanelle is in the sacral cavity and to the right of the median line. The coccyx comes in contact with the left parietal bone behind the anterior fontanelle and near the biparietal suture. *The bregma does not press forcibly against the perineum. The finger can easily pass between the head and perineum and the latter does not begin to distend until after the occiput is fixed and extension of the head is commencing.*

With the finger and thumb placed as described, it will be noticed that the continuance of uterine action forces the bregma against the coccyx, and as this offers a barrier to its progress, the occiput slips downwards and backwards until the nape of the neck, is applied to the symphysis. Extreme flexion has occurred.

This stage is represented by the cut and is that immediately preceding extension. The points I desire particularly to emphasize are that the occiput passes downwards and backwards in the direction of the line *a b*, in order to reach this position, and that the perineum does not yet oppose the bregma.

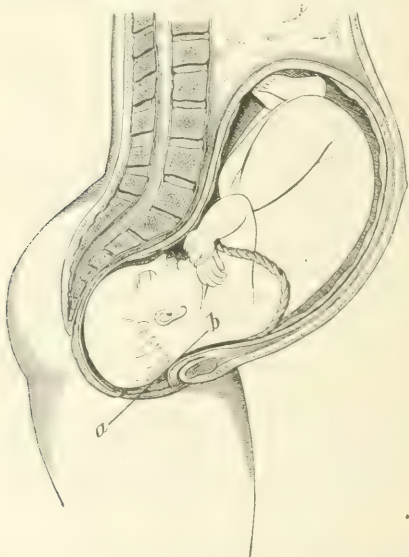
The continuance of uterine action, however, with now the opposing force of the perineal muscles and fixation of the occiput, produces extension, the resistance of the coccyx is

<sup>1</sup> Original position L. O. A.

overcome, and the head is born, the occiput moving forwards and upwards under the symphysis.

This flexion at the inferior strait which I have described as a normal stage of the mechanism of labor is either overlooked by obstetric writers, or if explained at all is done so on different principles.

Charpentier recognizes its existence. He says:<sup>1</sup> "it is even the rule that flexion does not become complete until the head



encounters the resistance of the pelvic floor." Charpentier evidently does not mean that the resistance of the perineal muscles causes this flexion, because, as I shall show later, he recognizes what I have already stated, that the flexion precedes the contact of the bregma with the perineum. If, by resistance of the pelvic floor, he refers to the resistance of the coccyx, he then acknowledges the function of this bone.

<sup>1</sup> "Cyclopedia of Obstetrics and Gynecology," Wm. Wood & Co., 1887, Vol. I., p. 349.

Tarnier<sup>1</sup> also states "that the movement of flexion is, at this juncture, at its utmost limit," but he explains it by saying that, while "the occiput is beneath the pubic arch, all the soft parts which make up the perineum press the anterior part of the head against which they are applied upward and backward."

The same answer applies here; the soft parts which make up the perineum are *not* applied against the anterior part of the head until the coccyx is pressed back and extension is commencing. Flexion at the inferior strait (see cut) precedes contact with the perineum. I am gratified to find that Charpentier<sup>2</sup> supports this statement. He says: "After its rotation, the occiput is not suddenly but progressively liberated, and it is not brought into close contact with the perineum until it is completely freed. Until that time it remains at a certain distance from the perineum, and if we introduce the finger posteriorly, we feel that the head is retained behind by its frontal eminences, on the sides by the biparietal eminences, and that there is a certain space between the perineum and the bregmatic region. In order that the bregma may be brought into close contact with the perineum, the occiput must be liberated from under the symphysis, and the bregma must descend, which it cannot do at this moment unless the head becomes extended."

This statement also furnishes a key to the former quotation from Charpentier that flexion becomes complete only after "the head encounters the resistance of the pelvic floor." It is not, according to him, the resistance of the coccyx which retains the head behind, but the opposition to the passage of the frontal and biparietal eminences.

The reasons for attributing it to the former have already been given at length. Now let us look at it with Charpentier's spectacles—"the head is retained behind by its frontal eminences, on the sides by the biparietal eminences."

Now, in the position of the head as we are considering it, the frontal eminences are still above the inferior strait and in the hollow formed by the receding curve of the sacrum—a location offering little resistance to the passage of the brow; and, on the other hand, the distance between the biparietal eminences is from three and one half to three and three-fourths inches, while

<sup>1</sup> Cazeaux and Tarnier, "Theory and Practice of Obstetrics," Philadelphia, 1884, p. 321.

<sup>2</sup> *Ibid.*, p. 352.



the length of the transverse diameter of the pelvic outlet is four and one-fourth inches.

Comparing the diameters of the fetal head with those of the pelvic outlet, we find ample room in all directions except one—the antero-posterior or coccy-pubic. But here a diameter of three and three-fourths inches is capable of being increased to four and one-half or five inches by recession of the coccyx; the force expended in pushing back the bone, however, retains the bregma above until flexion is complete.

Leishman<sup>1</sup> describes accurately flexion at the inferior strait, but instead of looking upon it as a normal movement, he considers it exceptional. He says: "If the pelvis is at all under the average in point of size, the frontal region is arrested at the apex of the sacrum, and the occipital end of the lever is again driven downwards, so as to press upon and distend the perineum. If, however, the parts be ample, and the perineum not unduly resistant, this does not occur, and the whole bulk of the head follows the curve of the sacrum at every point, obviously attempting to effect an exit immediately under the pubic arch."

The curve of the sacrum to which he refers is the lower portion, *i. e.*, in a direction downwards and forwards.

It is a movement which is the resultant of the force of the tissues of the floor of the pelvis and that from the uterine and abdominal muscles, and the direction is downwards and forwards. Authors generally describe the descent of the occiput in this direction being guided to the vulvar opening by the perineum.

There are several reasons why this is incorrect. In the first place, downwards and forwards is the direction of the movement of extension, while, as we have seen, the occiput passes behind the symphysis by one of flexion—downwards and backwards (line *a b*).

Again, it is only after this movement has taken place that the perineal muscles are called into play, and it is then that the reflected force of Solayres gives birth to the head by "obviously attempting to effect an exit immediately under the pubic arch."

Leishman<sup>2</sup> once more refers directly to the movement of flexion at the inferior strait. He says: "The oscillations which the head in its course undergoes on its transverse axis are, first,

<sup>1</sup> "A System of Midwifery," Philadelphia, 1875, p. 296.

<sup>2</sup> *Ibid.*, p. 297.

flexion; then partial extension prior to rotation; *then flexion, if the forehead be arrested at the apex of the sacrum*; and finally, the movement of exaggerated extension, which is only completed with the birth of the head."

I have italicized the above words because they represent exactly what is my view of the mechanism in all cases of normal labor with occiput anterior. What I look upon as a distinct and necessary stage, Leishman speaks of as an occasional movement occurring, as he has said, when the pelvis is under the average size. So far, we have considered only the function of the coccyx in occipito-anterior positions, or such that have rotated into that position at the inferior strait.

The same principle, however, is carried out in all cases, the coccyx retarding the end of the lever situated posteriorly until the opposite end slips down and becomes fixed at the symphysis.

In some instances, consequently, the movement will be the opposite of flexion at the inferior strait, as in face presentations with chin forwards. The posterior end of the lever is kept up until *extension* forces the chin under the symphysis.

## A UNIQUE MONSTROSITY.

BY

BROOKS H. WELLS, M.D.,

Instructor in Gynecology, New York Polyclinic.

(With Colored Plate and five Woodcuts.)

THROUGH the kindness of Dr. Lewis Whaley, of Birmingham, Ala., who has furnished me with notes of the case, I am enabled to describe the following very remarkable and unique monstrosity:

It is a female, belonging to the monocephalic, ileadelphic class of monsters by fusion,<sup>1</sup> and is the first of its kind that has ever been reported as having occurred in man, though several instances have been known in animals. There is a well-formed

<sup>1</sup> Geoffroy St. Hilaire, Veit, Kleinwächter.

single body, with normal upper extremities, which below the waist broadens out, having two umbilici, and bifurcating at the pelvis, where there are four lower limbs, all of which spring from the same horizontal and vertical plane. The spinal column divides at the third lumbar vertebra, the two pelves being fused by the junction of their respective ilia. The pelvic outlets are about two inches in the antero-posterior diameter, and one and a half inches in the transverse. There are two pelvic arches supporting the four limbs; two pubes; two montes veneris; two perfect sets of external and internal female generative or-



Mrs. B. when a child.

gans; two bladders; two ani, and two lower intestines. How high up the intestines remain duplicated is, of course, not known. The nates from below appear as those of two individuals with a distinct cleft between them. The organs above the waist, so far as can be determined, are normal. The two outer limbs, on which the woman walks, are well developed, though the foot of the right is in a condition of equino varus. The inner limbs are smaller, atrophied from disuse and below the knee very rudimentary.

The functions of the duplicated organs are dual and entirely

independent of each other, micturition and defecation occurring at different times upon the two sides. She has on several occasions been constipated upon one side, while there was diarrhea on the other. Menstruation appeared at the usual age, is normal, and occurs simultaneously on both sides. She was married shortly after her eighteenth birthday, and a year later Dr. Whaley was called to see her. At this time, she complained of distressing nausea and vomiting, had headache and fever, complained of pain above the pubes, and thought there was an in-

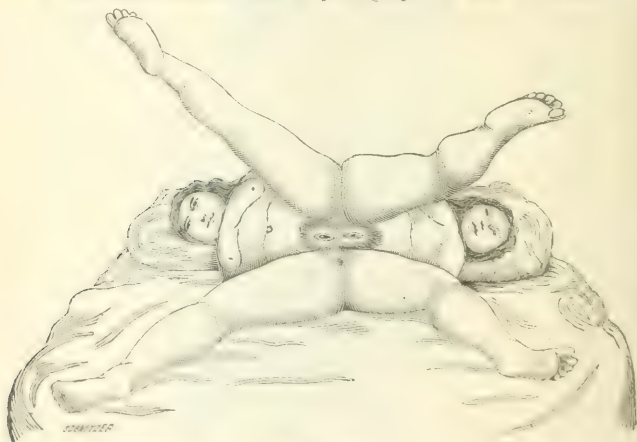


Hélène-Judith.

ternal tumor or abscess forming there.\* Dr. Whaley was uncertain as to the diagnosis, though suspecting pregnancy, and, therefore, treated her symptomatically. Later he found, by examination, that the left abdomen was becoming gradually enlarged, and that the enlargement was in the left uterus; he then gave a positive diagnosis of pregnancy. The vomiting and other symptoms continued, the patient grew very emaciated, and, to prevent death by inanition as well as troubles during delivery from the pelvic contraction, abortion was performed after consultation with Drs. Haden and Aldridge,

eight weeks after Dr. Whaley first saw her. Mrs. B. was successfully delivered of a perfectly-formed, three and a half months' fetus, and made a rapid and complete recovery. She is now in good health, is very intelligent, is perfectly able to attend to her household duties, and was 20 years old on the 12th of May, 1888.

The case was described by Drs. Joseph Jones and Eve, of New Orleans, shortly after the birth of Mrs. B., under the heading "A Contribution on Teratology," and recently by Dr. Whaley, in the *Atlanta Medical and Surgical Journal*. One of our illustrations is from a photograph of Mrs. B. when a



Millie-Christine.

child; the other is from the description of Dr. Whaley, which was accompanied with a drawing.

Monstrosities by fusion, that is, containing parts of two or more individuals, to which class Mrs. B. belongs, are supposed to result from the intergrowth of twin ova. When homologous parts of the two blastodermic layers unite, there is a certain symmetry in formation, the two bodies sinking into each other throughout a part or the whole of their length. In this class the vital functions are often not interfered with and the beings may live even to maturity. Usually, however, they are either born prematurely or are destroyed by mutilation necessary to

allow delivery. The two composing beings are always of the same sex. The most common form, considering only the double monstrosities, is where the union is back to back, there being bony fusion at the pelves with a single rectum and anus placed laterally to the double genitalia, as in the well-known cases of Hélène-Judith and Millie-Christine. Less often the union is at the side in the region of the diaphragm, as in Cheng and Eng, the Siamese twins. Rarer yet are the double mon-



Rita-Christina.

strosities where the intermerging is so perfect that all trace of duplicature or union is lost in the lower half of the body, as in Rita-Christina and the Tocci brothers, where in each case the two perfect upper bodies united in one pelvis and one pair of lower limbs. Rarest of all are those where one perfect upper body is united to two pelves and two sets of lower limbs as in the unique case here reported.

Where the union is face to face, where the bodies are very



deeply merged into each other, or where the union is asymmetrical, they usually die at birth from failure of one or more of the vital functions.

The monstrosity which most closely resembles Mrs. B. in type is Blanche Dumas, who differs in having a much less perfect development, there being three fairly developed legs and traces of the fourth. She has dual and independent external genitals and in addition an extra mamma by the side of the rudimentary fourth limb.

Where there are two heads, the individuals making up a



Blanche Dumas.

double monstrosity always retain the characteristics, physical and mental, of two distinct personages, and even in Mrs. B. the physical functions of the duplicated lower body are distinct.

What the determining factor may be in the production of these monstrosities is not known, but as a curious and amusing instance of the length to which medical credulity may be carried and as a bit of information for firm believers in the "Maternal Impression" theory, I quote the following concerning the *raison d'être* of Hélène and Judith, published first in the Transactions of the Royal Society of London and given by Wit-

kowski in his curious and interesting "Histoire des Accouchements."<sup>1</sup> "Dr. Torkos begins the description of this monstrosity by citing the proof which it furnishes of the influence of the imagination of the mother on the fetus; for, at the commencement of her pregnancy, the mother witnessed, with extreme attention, two dogs glued together during the act of coition, their heads turned each to its respective side, and she was unable to efface this picture from her mind."

---

## CORRESPONDENCE.

---

### HYSTERORRHAPHY AND ALEXANDER'S OPERATION.

---

TO THE EDITOR OF THE AMERICAN JOURNAL OF OBSTETRICS.

---

DEAR SIR:—Knowing that you always desire to be correct in your statements, I write to call your attention to an error in your article upon Alexander's operation in the issue of the AMERICAN JOURNAL OF OBSTETRICS for the present month. You say, "The combination of hysterorrhaphy (or stitching the fundus uteri to the anterior abdominal wall) with Alexander's operation, as recommended and twice performed by Polk, is certainly ingenious, etc." I am not aware that I ever recommended such a combination, and I am sure that I never made such an operation. What I did do was this: I *substituted* Alexander's operation for hysterorrhaphy. It was applied to certain cases in which, having opened the abdominal cavity for the purpose of freeing the "retroposed" uterus and its appendages from adhesions, I found it easier to *add* the Alexander operation rather than hysterorrhaphy. No thought of combination ever entered my head, for I consider the two procedures as merely different paths to the same end. There are certain cases of adherent "retroposed" uterus and appendages in which, owing to the depth of the pelvis, the shortness of the uterus, or the shortening and rigidity of the uterosacral ligaments and base line of the broad ligament, there is difficulty in placing the fundus uteri in easy apposition with the anterior abdominal wall. Fearing that the sutures would cut out, I doubted the permanency of hysterorrhaphy in such cases.

<sup>1</sup> "Histoire des Accouchements chez tout les Peuples," par G. J. Witkowski (1,548 woodcuts), Paris, 1887.

I have, therefore, substituted Alexander's operation in cases of this kind, feeling confident that it would better meet the demands of the situation. Sanger appears to have fallen into the same error as yourself.

Respectfully,

W. M. POLK.

7 EAST 36TH ST., November 16th, 1888.

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF NEW YORK.

*Annual Meeting, October 16th, 1888.*

*The President, DR. H. T. HANKS, in the Chair.*

### FOREIGN BODY FROM THE VAGINA.

DR. E. H. GRANDIN presented a cork with the following history: About two weeks ago, he was asked by Dr. S. D. Terry, of this city, to remove a foreign body from the vagina of a young girl of about nineteen, who stated that the young man to whom she was engaged to be married had attempted to take improper liberties with her, which she had successfully resisted; out of revenge he had then forced a cork into the vagina. The cork was readily extracted, and in its undesiccated condition it measured about two inches in length, and the same in breadth. The speaker added that the young woman had a retroverted uterus, and that the cork had acted as an efficient pessary.

THE PRESIDENT referred to a similar case under his care a year ago. This patient came from New Hampshire, was seventeen or eighteen years of age, and complained of more or less vaginal pain and distress in the pelvis dating back a number of years. Her attending physician had told her that she had a foreign body in the vagina which he could not remove. Under ether and with considerable difficulty the speaker had removed a spool as large as the cork presented by Dr. Grandin. The history of this case was, that when the patient was about eight or ten years old, another girl had crowded this spool into this child's vagina, where it had remained for between seven and nine years. This fact was vouched for by the attending physician, who knew the girl who had done the deed.

DR. GRANDIN added that he doubted the veracity of his patient, and thought that she had inserted the cork herself.

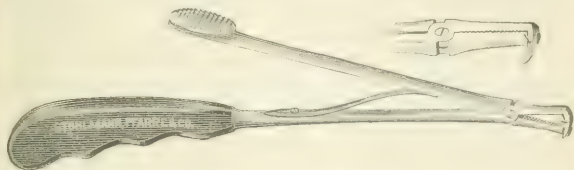
DR. R. B. TALBOT presented a

### COUNTER-PRESSURE NEEDLE FORCEPS,

with the following description:

The instrument which I exhibit to the Society is one I have recently devised, and find very useful in operations for lacerations

of the cervix. It will also be found applicable in *any* operation where the needle must be extricated from dense tissue by the forceps and the aid of counter pressure. I have called these counter-pressure forceps as they supply the place of a counter-pressure hook at the time of passing the needle through the tissues; still,



in *very dense* tissue we may be obliged to use the counter-pressure hook in drawing the thread through *after* the needle is firmly seized by the forceps. But its usefulness is such that I venture to place it before the profession. The instrument is made something on the principle of an ordinary needle forceps, though lighter; the difference being that it is flat on one side, and with a small cross-bar attached to one jaw, passing across and sliding *under* the other jaw, thus forming a counter-pressure loop. Upon this bar is a small spur which penetrates the tissue, and keeps the instrument from slipping when in position for use.

In operating on the cervix, we often meet with cases where it is almost impossible to catch the needle with the ordinary forceps, after the needle has been thrust into the tissues and the point received into the loop of the counter-pressure hook. This is due in part to the fact that the moment you let go one end of the needle, and endeavor to seize the other or point end, the pressure on the tissue is removed and the needle point slips from the counter-pressure loop, and is lost to view, becoming buried deep in the muscular tissue. The same thing takes place should your needle chance to be a little short. In either case, it only means another, and even third trial; this causes delay, which, in cases where a double operation is required, causes loss of time, and this is a great item to your patient and yourself. Another difficulty which often occurs in operating upon dense tissue is this: After the needle has been inserted into the tissue, and the point *can be seen* in the loop of the counter-pressure hook, and you *have* seized it with the forceps and draw it towards you, suddenly your forceps become disengaged and spring back; on examination, you find you have snapped off the point of your needle, having not caught it low enough down to stand the strain, as the counter-pressure hook was in the way. The forceps which I present to the Society remedies many of these evils, and I think will be of great service to many in their operations. In using the forceps, they are taken in the left hand (having been arranged only for that hand), and

while the needle is being thrust through the tissue with the ordinary needle forceps in the right hand, compression is made by my forceps until the needle has penetrated the tissues, and the point passed into the loop of my forceps. The counter-pressure forceps in then closed, and the ordinary forceps loosened, and you then have the needle firmly grasped in the jaws of the counter-pressure forceps, and held so firmly that you can readily extract it from the muscular tissue of the uterus. When you have the needle firmly grasped by the forceps of the right hand, as at the beginning of the operation, you have no reason to let go of it, until it has in turn been grasped by the jaws of the counter-pressure forceps. By this method you have almost complete control of the needle, and can regulate in a great measure the length of the needle passing through the loop, thus keeping the point from slipping under the loop, until the needle is grasped by the counter-pressure forceps. The advantages of the forceps are these:

First. Complete control of the needle from the moment the end has passed into the counter-pressure loop.

Second. No danger of only getting hold of, and snapping off the point of the needle; as you can grasp the needle lower down in absence of the counter-pressure hook.

Third. You always have your needle in the jaws of the forceps while you are making counter-pressure, and can readily seize it.

Fourth. In case of a comparatively short needle you can overcome the difficulty by making more pressure.

Fifth. No danger of having the point of the needle slip under and out of the counter-pressure loop, as it often does by *removal of pressure* from the first pair of forceps, as it is necessary to remove these when they are required for seizing the point to draw the needle out.

DR. GRANDIN suggested that the instrument might also be used as a needle holder, and Dr. Talbot assented.

DR. A. P. DUDLEY presented the specimens from five laparatomies accompanied by the following report:

#### ABSCESS OF THE OVARY.

Mrs. W., age 40, married thirteen years, no children, no miscarriages. Matured at eleven years of age, regular in return, scanty in quantity, lasting from five to eight days. Always accompanied by pain in the back and both sides, commencing just before the flow and present half the period. Menorrhagia lasting sixteen days last fall; no metrorrhagia; no vaginal discharge; no bladder trouble. Bowels always constipated, general health good. Locomotion good, except when suffering from an attack of trouble in the pelvis. Been suffering since shortly after her marriage, when she had an attack of acute inflammation in the pelvis, this inflammation repeating itself several times each year since

I saw her through the last one, one month ago. It was an acute inflammation around the left tube and ovary. The latter appearing to be the size of an orange, I deemed the enlargement to be one containing pus from the fact that she showed evidence of sepsis. Laparotomy was advised, to which she consented, and it was performed on October 1st, 1888. A suppurating ovary was found surrounded by old and new adhesions to the intestines, omentum, uterus, and pelvic walls.

The operation was a very difficult one. The sac burst and allowed the escape of the pus among the intestines. The abdomen was quickly washed out with boiled water; no drainage tube was used; the wound closed with catgut, except the skin. Patient is now convalescent, but the superficial wound is healing by granulation.

#### DOUBLE PYO-SALPINX.

Mrs. L., age 29, married seven years. Had one child; no miscarriage, matured at twelve. Irregular for a time from sea-bathing; duration of menses four days; flow profuse; pain across the abdomen. Suffered from metrorrhagia once, no leucorrhœa. Had been under treatment in hospital for six months without relief. Her symptoms were pain in the back and sides and frequent attacks of pelvic inflammation, uterus retroverted and fixed. Diagnosis, retroversion and salpingitis with adhesions. Laparotomy made October 4th, 1888. Small pyo-salpinx found upon each side; uterus retroverted and bound. Pyo-salpinx removed, uterus freed, and held forward by taking a loop in round ligament. Patient convalescent.

#### PYO-SALPINX AND CYSTIC OVARIES.

Mrs. W., age 26, married five years, children two, miscarriages two. Matured at 17; regular flow lasting four days, but scanty, always with pain across the abdomen. Never suffered from menorrhagia or metrorrhagia. Was in Presbyterian Hospital one year ago, when local examination was followed by a pelvic peritonitis, and the latter has repeated itself every month since, after the period. Diagnosis, salpingitis with adhesions. No relief after one year's local treatment. Laparotomy advised and performed October 5th, 1888. Salpingitis found with extensive adhesions, and both fimbriated extremities of the tubes glued to the ovaries and occluded; both ovaries, cystic tubes, and ovaries removed; patient convalescent.

#### CHRONIC PELVIC PERITONITIS.

Mrs. K., aged 22, married nine months, suffered one miscarriage three and one-half months after marriage. Always well before marriage. Matured at nineteen. Regular flow profuse, lasting four days; cramp pains the first day; no pain in the sides. Not well since the miscarriage, which was followed by a flooding and



acute pelvic peritonitis, confining her to bed for some time. Suffered from profuse leucorrhea and constipation. Examination showed uterus retroverted and firmly bound down. Thickening in both sides. Laparotomy resorted to October 6th, 1888. Extensive adhesions of the intestines to the tubes, ovaries, and uterus were found. On the left side, firmly bound to the uterus and surrounding structures, was an enlargement the size of an egg. In endeavoring to lift this up, I ruptured the sac, and a quantity of extremely fetid pus escaped into the pelvis, which was quickly washed out. The adhesions to the fundus of the uterus were so firm as not to allow of separation, and I sewed the upper surface of the fundus with the sac, and closed the wound in the uterus with catgut over-and-over suture. No drainage tube was used. The pelvis was washed out with five gallons of boiled water poured in a continuous stream. Wound closed with catgut. Union of peritoneum and linea alone took place, but the cellular tissue formed abscess. Wound now healing by granulation. Patient convalescent.

#### SUPRA-PUBIC HYSTERECTOMY FOR FIBROID.

Mrs. D., age 36. Widow five years. Menses normal until one year before my seeing her, 1886. She had been suffering from attacks of menorrhagia, which would continue three months at a time. Had borne one child seven years ago. Never suffered from miscarriages. Had been a sufferer since the birth of the child. Physical examination showed the uterus to contain a large fibroid. She was subjected to local application for a time without benefit. December 30th, 1886, I made Hegar's operation upon her, removing the tubes and ovaries. She left the hospital in three weeks; disregarded instruction relative to the abdominal incision, lifted heavy weights, and produced a large ventral hernia.

The removal of the ovaries and tubes did not check the menorrhagia or reduce the size of the fibroid. She returned to me after an absence of nearly two years in a worse condition than when first seen. I sent her to the hospital, and on October 15th again opened the abdomen. Found extensive adhesions of the omentum to the growth, and on the right side a cluster of immense venous sinuses, running from the growth to the general venous circulation, a point which I want to emphasize, and show that the broad ligament may and does contain immensely dilated veins, which, to digital touch per vaginam, would feel like a dilated tube. I made supra-pubic hysterectomy after Schroeder's method; also dissected out and reunited the separated linea alba with interrupted silk sutures, cut short, and covered in. Four days after the operation, temperature and pulse normal, and patient doing well. (On Nov. 6th the patient was convalescent.)

DR. WYLIE thought Dr. Dudley had made a mistake in closing the wound after fetid pus had escaped into the abdominal cavity:

he would have done better if he had used a drainage tube. It is almost impossible to get the cavity clean by irrigation.

DR. DUDLEY replied that he hesitated to put in a drainage tube, because he thought that the theory of its use was rather mythical; the tube is quickly surrounded and encapsulated by lymph. He had used the tube in previous cases, and lost his patient. He felt safer in washing out the cavity, knowing there was no raw surface left.

DR. BYRNE inquired what was done with the injured intestine.

DR. DUDLEY said that he had put the omentum into the pelvis as much as he could, and brought the injured intestine away from the stump of the uterus.

#### PUERPERAL ABSCESS.

DR. J. H. GUNNING presented a specimen with the following history: In August last, he was called to the case during confinement; everything was going on well, when all at once the patient complained of intense pain on the right side, saying she felt as if everything was being torn away. This he ascribed to traction on the placenta, as the funis was wrapped three times round the neck of the child; he cut the cord and delivered the child. The patient was progressing nicely for eight or ten days, when she complained of pain in the groin, with chilliness and chills. Toward the close of that day, the temperature increased to  $101^{\circ}$  F., during the night to  $101\frac{1}{2}^{\circ}$  F.; the second day to  $102^{\circ}$  F. and up to  $102\frac{1}{2}^{\circ}$  F.; on the third day, it vacillated between  $102^{\circ}$  F. and  $102\frac{3}{4}^{\circ}$  F.; the next day between  $101\frac{1}{2}^{\circ}$  F. and  $102\frac{1}{2}^{\circ}$  F.; on the fourth and sixth days about the same. The attending physician felt uneasy, and called him again in consultation. He thought the symptoms were probably due to some portion of tissue remaining in the cavity of the uterus. He cleared out the uterus, used antiseptic injections, and at times it seemed as if they made some impression on the temperature, but the rise soon returned; this continued for five or six days. The speaker saw her again on the fourteenth day, and found quite a marked lump in the groin, and it impressed him it might be an abscess at the junction of the ligament with the fundus, quite marked and of good size. He examined further, and found no trouble inside the uterus, which was clean and free from odor; in fact, everything seemed all right. He discontinued the intra-uterine injections. Antifebrine and other antipyretics had been given, yet, when speaker saw her, the temperature was  $105^{\circ}$  F., and the patient was dripping with perspiration in spite of the large doses of antipyretics exhibited.

On asking for the history of the patient, he was told that two months before confinement, as she was climbing up to the cupboard on a chair, she fell, and the chair struck her in the side; she suffered pain and fainted, and thought she was threatened with miscarriage. Two days' treatment relieved the pain, and the patient complained of nothing further until during confinement. As stated above, he supposed it was an abscess at the junction of

the ligament and fundus, and recommended the discontinuance of the internal irrigation, and placed her on the tincture of *veratrum viride*.

The patient died at the end of twenty-first day. There was an abscess on that side the size of a pea-nut; no peritonitis, nothing in the cavity of the uterus, no fluid of any character in the abdomen, no enlargement in the vicinity of this abscess.

The treatment had been supporting throughout, and the patient had had a good appetite and ate very fairly; she was fed largely on beef-tea and similar articles, and kept up by stimulation.

DR. WYLIE maintained that such an abscess localized in the peritoneum could hardly account for the woman's death; following labor there must have been septicemia starting in the uterus, with transudation through its walls.

DR. MUNDÉ said that he had seen a number of post-mortem specimens like the one presented, when he was in Vienna. In such cases the uterus was generally empty, and they were then considered to be septicemia with localized lymphangitis. He could see nothing strange in the specimen, and agreed with Dr. Wylie.

DR. JANVRIN inquired how the pain could be accounted for. In addition to other symptoms there was pain during labor; the location of that pain was identical with that abscess. There had been a blow some months prior to the confinement. If the patient had died from septicemia, he should like to inquire what connection there could be between the blow and the abscess; it seems to have had something to do with it.

DR. GUNNING.—She was free from pain everywhere but there. It was the first symptom that I noticed when I saw her the first time.

DR. WYLIE.—How frequently were the antiseptic injections given by the attending physician?

DR. GUNNING.—I think about once in three hours. There were three or four records made on the memorandum slip that they had kept; during one day there were given three injections.

DR. WYLIE.—In my experience with septicemia I found that, in a certain class of cases, after the poison had reached too deep, if the whole cavity of the uterus is washed out every hour, there was not one out of ten cases but what the temperature would fall. The injections should be given frequently enough to keep the patient saturated.

DR. TUTTLE.—I should think septicemia was the most probable cause of death. There is a general tendency we should keep in mind not to attribute every case that dies to the access of infection from without, for this may come from within. In an autopsy made a few days ago on a man, the body was hunted from crown to toe; a few infarcts were found in the lung, and somebody suggested that the penis be slit open. On severing the frenum, balanitis was found. Therefore, realizing the manifold sources of infection, we must not neglect to hunt for the sources of infection from within. This point has been emphasized by the presentation of this specimen.

DR. DUDLEY.—I desire to call attention to the inside of this uterus: I believe there still remain some portions of the placenta attached to the uterus; sepsis proceeded from that point to the system. This will be proved if examined by the microscope.

On motion the specimen was referred to the pathologist.

DR. PAUL F. MUNDÉ read a paper entitled:

LAPARATOMY FOR REDUCTION OF AN INVERTED UTERUS.

When, a number of years ago, Thomas suggested and in two instances (one successful) carried out the plan of stretching the funnel of an inverted uterus with a glove stretcher passed through an abdominal incision, the profession could not but admire the boldness and originality of the idea, although it has as yet been slow in adopting and following it. But in those days (not so remote, either) it was considered proper to relegate laparatomy to the place of a last resort, and amputation of the inverted uterus was preferable to the dangerous experiment of attempting to dilate the constricted ring of the organ through an abdominal incision. And surely the choice of the former operation, mutilating as it was, could not be ascribed to its safety, since, out of fifty-eight cases collected by Scanzoni in 1867, eighteen were fatal.

With the comparative absence of danger now attending aseptic laparatomy, there seemed a chance for a revival of Thomas' operation in a favorable case. While I had seen, in all, six cases of inversion of the uterus, only two were complete uncomplicated inversions; one of these was in Scanzoni's clinic in 1867, and, in consequence of a doubtful diagnosis, the uterus was ligated and amputated, with a fatal result; the other was shown me by the late Dr. Dawson in his clinic at the Out-door Department of the New York Woman's Hospital some twelve years ago, and was subsequently replaced by him, by what method I do not know. The other four cases were partial inversions produced by fibroid polypi, and were easily reduced after removal of the tumor. Thus I had no opportunity to test Thomas' method in a case where a faithful and persistent trial of the usual rapid and gradual means of vaginal reposition had failed, until a few months ago.

M. W., 27 years, married, two children, the last three months and a half old, was admitted to my service at Mount Sinai Hospital on May 29th, 1888, during my absence from the city. The last confinement had been easy and natural. Particulars could not be obtained as to the placenta and puerperal state. About one month later she consulted Dr. C. Nicolai, of Harlem, for persistent hemorrhage, who detected a complete inversion of the uterus, and, as he informed me, made four distinct attempts at reduction of an hour each, twice under chloroform, but without success. The hemorrhage continued, and the patient was sent by Dr. Nicolai to my service. Dr. B. Scharlau, who acted as my substitute during my absence, made two very determined efforts at reduction under chloroform, and, failing, employed steady pressure with an inflated air-bag for three days, until the surface of the inverted uterus became so raw and its tissue so soft as to cause fear of sloughing. Then mild carbolized douches were substituted. On

June 6th a third ineffectual attempt at reposition was made under anesthesia.

On my return, two weeks after her admission, I found the excessively anemic and emaciated patient clamoring for relief, no matter how. At the first examination, I made a moderate attempt at reduction without anesthesia, merely as a feeler, and easily found the reason of a failure to lie in the great mobility of the completely inverted uterus, and the apparent impossibility to secure sufficient purchase on any part of the uterus so as to be able to press it steadily against the contracted ring. The obstruction was so easy of reach through the thin abdominal walls that it seemed to me, as it had done to Dr. Nicolai and Dr. Scharlau, absolutely incomprehensible that it should not be overcome, and I appointed the day for the final trial, with considerable confidence that I would be successful.

However, in case I should fail by the usual methods, I had laid down for myself the following plan of action: Abdominal section, stretching of the inverted ring with a Palmer dilator or a glove-stretcher, and then reinversion by the intra-vaginal hand. Should this combination fail, as I had no idea it would, then removal of the ovaries, closure of the abdominal wound, and elastic ligation of the inverted uterus. I so confidently expected to replace the uterus by manual pressure that I had not provided myself with a glove-stretcher, not happening to find one conveniently at hand.

On June 20th, in the presence of Dr. W. H. Baker, of Boston, and a number of gentlemen attending the polyclinic, I began the attempt at reduction, the patient being thoroughly relaxed by chloroform. For fully one hour, with alternate hands in the vagina, and applying the pressure at every available spot of the uterine surface, employing the fingers of the other hand and a wooden plug as means of counter-pressure and of dilating the ring, I labored to effect reduction, until, from sheer exhaustion, I was obliged to desist. The contracted ring firmly resisted all efforts to dilate it. Further efforts seemed unadvisable, as the uterine tissue had become so soft and pulpy, from manipulation and pressure, and the wall at spots appeared so thin, as to render its perforation by the fingers probable.

I could not bear to give up the reduction of the organ at that sitting, and therefore proceeded to carry out my original plan. Rapidly making a two-inch incision through the abdominal wall, I pushed the uterus from the vagina upward so as to almost bring the ring into the wound, and first with my fingers and then with a Palmer's steel dilator tried to stretch it apart. Failing in this, I sent for a glove-stretcher, and procured two of ivory from the wife of the superintendent of the hospital. These were disinfected, and first one and then both were inserted through the abdominal wound into the uterine ring down to the very bottom of the inverted uterus, and gently separated to their utmost. The ring was



thus completely dilated and I expected an immediate reduction. But as the glove-stretchers were slowly withdrawn to allow the *pari-passu* reposition from the vagina, at the instant the stretchers slipped out of the ring, the latter closed like a vise; and, although the attempt was repeated again and again, no rapidity or concurrence of action in pressing the fundus upward succeeded in anticipating the contraction of the ring. It seems almost incredible that it should have been impossible to so dilate and keep open the ring, when it was not only easily accessible, but even visible at the abdominal incision, as to enable me to slip the fundus back through it. But such was nevertheless the case, and my spectators will, I think, give me credit for having tried faithfully to save this woman's uterus. As a last resort, I followed a suggestion of Dr. Lilienthal, my house surgeon, who assisted me (before the operation, while discussing the possible necessities of the case, I had rejected this plan as ingenious, but scarcely likely to be required), and passed a Peaslee's needle from the vagina through the firmest portion of the fundus uteri and out of the ring and the abdominal wound, attached a long loop of the thickest silk to it, drew the loop out of the vagina, and tied a piece of large, doubled, vulcanized rubber drainage tube to it, as a fulcrum upon which to exert traction. I chose the flexible tube, in preference to a flat button of horn or metal, which were at hand, because I feared the latter might prove an obstacle at the contracted ring. Then dilating the ring with the glove-stretcher, I tried to draw the fundus up through it by making steady traction on the loop of silk. But the pulpy uterine tissue gave way and the drainage tube suddenly appeared in the abdominal wound. Realizing that this uterus was beyond saving, I quickly removed the drainage tube and silk loop, pushed the perforated fundus down into the vagina, and tied an elastic ligature tightly about the body of the uterus, as near the vaginal vault as I could reach. Having thus sealed off the peritoneal cavity from below, I proceeded to remove both ovaries and tubes in the usual manner, and, after thoroughly cleansing the abdominal cavity with warm Thiersch's solution, I closed the wound. The vagina was irrigated with bichloride solution (1 to 5,000), and loosely packed with iodoform gauze.

The operation had lasted one hour and forty minutes, the oöphorectomy and closure of the abdominal wound occupying but ten minutes. The patient bore the severe handling better than her anemic state would have led one to expect; there was but moderate shock, and no local inflammatory reaction whatever. After the first forty-eight hours, when the iodoform gauze was removed, the vagina was irrigated every three hours with warm Thiersch's solution, bringing away for nearly two weeks quantities of black offensive shreds. The temperature for nine days varied between  $101^{\circ}+$  and  $102^{\circ}$  F., the pulse between 100 and 130 beats; after that both became normal. The frequency of the



pulse was no doubt due to the excessive anemia, and the slight rise of temperature to absorption of septic matter from the sloughing uterus by the abraded and torn vagina.

On the thirteenth day I made an examination with the Sims' speculum and found the elastic ligature loose in the vagina, and the body of the uterus entirely absent, the stump of the cervix being almost on a level with the vaginal vault and the cervical canal apparently closed. The abdominal sutures were removed on the ninth day, and a small mural abscess was found which may have caused some of the temperature, for it immediately fell, and remained down.

From that date recovery was uninterrupted, and on the fifteenth day the patient sat up in an easy-chair.

I am thankful that in this case I followed the old rule to "let well enough alone" and did not interfere with the sloughing process of the ligated inverted uterus by cutting off the sloughing portion, as is advised by most authors, and as the fear of septic infection might have induced me to do. But more than the danger of septic infection I feared the retraction of the edges of the cervical canal and a communication with the peritoneal cavity. I had once seen this occur after immediate amputation of the inverted uterus after ligation (Scanzoni's case), and the autopsy showed the gangrenous border of the cervix turned into the peritoneal cavity, and I did not wish to risk a similar occurrence in my case, if the elastic ligature was removed too early or chanced to slip off after amputation of the sloughing uterus. Besides the practical point to be learned from the treatment of the ligated uterus, the chief lesson taught by this case seems to me to be the failure of the effort to dilate the cervical ring through an abdominal incision sufficiently to permit replacement of the fundus. My hopes had been so unbounded in the easy success of Thomas' ingenious plan that I was and still am intensely disappointed at its failure, the more so as I fancy whatever chance it had of being adopted in suitable cases in the future may be shattered thereby.

I am aware that I may be criticised for not having persevered still longer with gradual pressure, and I confess had I doubted for a moment that Thomas' method would succeed, I should have felt it my duty to subject the uterus and vagina to still further distention and taxis, which they might ill have borne.

DR. PRIESTLEY, of London (present by invitation), said: It is very good of you to call upon me, but in truth I came rather as a learner than as able to say anything original. I have been now some two months in the United States, and I have been so struck with the perfection of instruments and their use that it has thrown into the shade everything on the other side. I have seen Dr. Emmet operate and must say I have never seen any surgeon use the needle in dark corners with equal dexterity. I will just say one word on the paper of Dr. Mundé, and state a practical lesson I

have learned. I recollect, long ago, how much we were apt to be nonplussed by these cases. I can look back many years to a case in which Spencer Wells and I tried to reduce an inversion by various methods: by pressure with the fingers and counter-pressure from above, etc., and we failed. Eventually we were both of us taught by Dr. Aveling, who used his well-known repositior, the cup and elastic strap, and this restored the uterus to its position. This method has been used with success in Great Britain. I must congratulate Dr. Mundé on the great dexterity he has shown, and for the recovery of the patient, but I think he should have tried Aveling's method before amputating the uterus. Since I have been in this country, I have met Dr. Marcy, of Boston, who told me he had recently attempted to reduce cases of chronic inversion by another method, besides the cup suggested by Dr. Aveling; he fastened transverse India-rubber straps to the uterus itself. In this case, in the course of half an hour, he succeeded. He had reduced another one under very difficult circumstances where several previous attempts had failed. I cannot say that I have had a large experience; I have not seen very many cases because our practice in Great Britain is becoming a good deal divided between physicians and surgeons; therefore, I do not see quite so many as Mr. Knowsley Thornton; at the same time I do meet with such cases every now and then and I would feel disposed to try first the cup treatment with elastic straps, then adopt the suggestion of Dr. Marcy, then that recommended by Dr. Mundé, who will agree that this should be the last resort. I should try to avoid a more serious operation if a lesser will answer the purpose.

DR. FORDYCE BARKER (*Honorary Fellow*) said he was quite incompetent to discuss the question; he had seen very few cases of chronic inversion of the uterus and he thought the Society would not care to hear an account of his failures.

DR. B. McE. EMMET.—In the remarks which have been made, I have been chiefly interested in the description of Dr. Marcy's method because I had a similar idea last summer which is embodied in an instrument I have brought with me. It consists of a ring on three stems which is to encircle the cervix, of which, in most cases, there is some portion usually remaining in the normal position. The reinversion is to be accomplished by passing stitches through the border of the cervix and making traction outward over the ring (instrument), while counter-pressure is exerted by means of the stems which are secured to another smaller ring. The counter-pressure we get by the abdominal walls amounts to nothing at all, and we get no purchase unless we can act on the cervix itself. The stitches are to be passed all around and brought to the outside, being made fast to rings which can slip on the fingers. Forceful traction being made upon them, we dilate the cervical ring and thus get a way open for the fundus to pass, and with the central stem we indent the fundus. This stem I had made with rounded top, but it could be changed to a cup, if so desired. The instrument is to be held in the palm of the hand, and at the same time forced upward as the ligatures are drawn upon.

DR. BYRNE.—Several years ago I devised an apparatus for restoring an inverted uterus which was put to the test in a very urgent case in which Dr. Thomas assisted me at the operation. This apparatus was, within three months afterwards, used suc-

cessfully in a very critical case by Dr. Thomas. I think, if I recollect aright, the article descriptive of this instrument appeared in the *New York Medical Journal* at the time Dr. Hunter had the editorial department in charge. The principle of its construction was not that of a ball and cup, but of a cup with a movable bottom. I contended at the time, and believe still, that it will avail but little to make upward pressure on an inverted uterus unless we can keep that organ from spreading. Hence, the transverse diameter of the imprisoning cup, as well as its depth, must be in proportion to the size and shape of the inverted body.

In the case referred to, counter-pressure and dilatation of the cervical constriction were effected by the abdominal plug, while steady upward pressure was maintained in the vagina.

As restoration progressed, the movable bottom was pressed forward at intervals by means of a screw in the handle, and the cup in this manner gradually shallowed and finally obliterated, when the fundus returned without further trouble.

The case subsequently treated by Dr. Thomas was also successful. I think Dr. Barker, with characteristic modesty, has hesitated to refer to a very interesting case in which he was associated with me twenty-eight or thirty years ago in Brooklyn—a post-partum case which the doctor very successfully reduced. The instrument to which I refer I believe to be constructed on sound mechanical principles, and unless in an extremely chronic case or in the case of a woman with thick abdominal walls, where the ring is not accessible to counter-pressure, that it must necessarily effect reduction.

DR. W. M. POLK.—The failure of Dr. Mundé by the usual methods of reduction has put me in mind that Dr. Browne, of Baltimore, some five years ago, I believe, reported a case of inversion which he reduced by making an incision in the uterine tissue, by which he secured a sufficient amount of relaxation. In this connection I would say, before resorting to extirpation of the organ, and after trial of the simpler methods brought forward, we might make an operation of comparatively little danger, which I am sure would succeed in relieving the difficulty and would leave the uterus in position to perform its function. It is this: We know that the attachment of the peritoneum to the anterior portion of the uterus is such that after cutting through the anterior vaginal wall, we can get above the point of constriction in these cases of inversion. It would be a perfectly simple thing to make an incision through the utero-vaginal junction, slip the finger between the peritoneum and the cervix, then using it (the finger) as a guide, cut through the constriction, laying open the entire cervix, if necessary. Reduction would then be easy. It is possible that, having reached the constricting ring in this manner, the inversion might be overcome without cutting the cervix. Fastening a blunt hook into the cervix, traction could be made upon it while the fundus was being forced up. In case of much resistance, however, I should prefer incision, fearing to bruise this tissue to any extent. Any hemorrhage arising from this operation, whether the cervix is incised or not, can be easily controlled by hemostatic forceps as in vaginal hysterectomy. Even if the peritoneum should be entered, I cannot imagine that any more danger would result than from the laparotomy, so that if the obstruction is solely in the cervix, the operation will succeed in relieving it.

DR. MCLEAN.—Dr. Mundé very graphically describes the condi-

tion of the constriction, considerable force having been applied by means of sutures, which indicates that the intervening tissue must have been very dense. As I understand, he had the cervix kept open while this attempt was being made. This seems to emphasize the importance of causing, as it were, a physiological softening. If I should meet with such cases, I should use some dilator of the upper portion of the vagina similar to Barnes' bags and make prolonged, steady pressure before resorting to any operative measure. This is theoretical, but I would like to see it tested.

DR. DUDLEY.—I have seen only two cases in the service of Dr. Warren Green, which were reduced with the coiled spring egg-beater, and the same method Dr. Byrne spoke of. The thought struck me that Dr. Munde did not use pressure enough, and had he used force enough there would have been no need of abdominal section. He might have used the quadrivalve speculum; you can exert an immense amount of force with it. Certainly, the intravaginal portion of the organ would give way first, even if you ruptured it. Dr. Munde could have succeeded if he had used sufficient force. I offer this merely as a suggestion.

DR. MUNDÉ, in closing the discussion, said: I would simply state that I brought this paper before the Society with two objects. First, to report a case in which the very plausible method of Dr. Thomas failed. When I undertook it, I had no doubt that it would succeed. My second object was, to call forth the remarks which have been made as to the value of the other methods of reposition, with which I am familiar. I am glad that the discussion has brought out these methods. I shall never again do laparotomy and dilate the uterine ring in this manner. That is one lesson I have learned from this case, and which all ought to learn from it. With regard to Dr. Dudley's suggestion that not force enough was used, I would reply that I certainly did use all the force the case could bear, fully equal to all that can be exerted with the quadrivalve speculum. The ring contracted so strongly and immediately that it sprang together almost with a snap. Considering all the previous attempts at reduction, and the pulpy condition of the uterine body, I believe I was justified in doing what I did.

#### Resolutions in memoriam Dr. J. N. FREEMAN.

*Whereas*, the New York Obstetrical Society has heard with regret of the death of Dr. John N. Freeman, of Brooklyn, an honored and zealous member of said Society; and

*Whereas*, in the death of Dr. Freeman we have lost an earnest and conscientious worker, and one whose investigations touching the electrolytic treatment of uterine fibroids, and encouraging reports of cases so treated, have been alike creditable to his industry and an incentive to others in this field of clinical research;

*Therefore, be it resolved*, that we tender to his family our sincere sympathy in their affliction, and that a copy of these resolutions be transmitted to them as a tribute of our esteem and affection.

JOHN BYRNE,

EGBERT H. GRANDIN,

*Committee.*

## OFFICERS FOR 1888-89.

*President*—Dr. H. T. Hanks.*First Vice-President*—Dr. B. McE. Emmet.*Second Vice-President*—Dr. H. D. Nicoll.*Recording Secretary*—Dr. Egbert H. Grandin.*Assistant Recording Secretary*—Dr. A. M. Jacobus.*Corresponding Secretary*—Dr. H. Marion Sims.*Treasurer*—Dr. J. L. Morrill.*Pathologist*—Dr. Henry C. Coe.

## TRANSACTIONS OF THE GYNECOLOGICAL SOCIETY OF CHICAGO.

*Regular Meeting, Friday, September 28th.**The President, HENRY T. BYFORD, M.D., in the Chair.*

## RECENT MODIFICATIONS OF BOZEMAN'S UTERINE CATHETER.

DR. W. W. JAGGARD said that it was difficult to clean and sterilize many of the double-current tubes commonly used for the purpose of intra-uterine irrigation. He begged to call attention to three models of Bozeman's uterine catheter as variously altered, in important particulars, respectively by Breisky, Breuss, and Piskacek. Breuss' instrument resembled the modification by Chrobak and Fritsch, but permitted the use of a much smaller uterine tube—four millimetres in diameter—of obvious advantage in the irrigation of the non-gravid uterus after curettement. Although the uterine tube can be removed from the conduit-pipe, this instrument requires care in cleaning. Piskacek's model is an almost perfect instrument. It has been in the shops for some time, and has answered the purposes for which it was designed. This catheter is identical in principle, and nearly so in detail, with the "Aseptic Two-way Uterine Catheter" exhibited by Dr. H. A. Kelly to the Obstetrical Society of Philadelphia, March 1st, 1888. A cut of the instrument shown by Dr. Kelly, appearing in the July number of the AMERICAN JOURNAL OF OBSTETRICS, etc., may serve to illustrate Piskacek's device.

## SELF-RETAINING DRAINAGE TUBES FOR PELVIC ABSCESSSES OPENING INTO THE RECTUM.

THE PRESIDENT said: I wish to exhibit some self-retaining drainage tubes that I devised for draining pelvic abscesses discharging into the rectum. One of these was successfully used in the cure of an abscess that I opened from the rectum. I used another suc



cessfully in a double uterus with a single cervix, in which the retained blood on one side had to be excavated a little in front of and to the right of the os. It was used until the pocket formed by the previous distention (hematometra), and that extended below its outlet at the internal os, had become obliterated by slow contraction. I am now using one to drain the urine from an inflamed bladder. They are curved so that the concave side represents in profile a semicircle, the convex side an arc of about ninety degrees. They are made of silver, or of nickel-plated metal.

#### PEDICLE-FORCEPS FOR VAGINAL OÖPHORECTOMY.

I have here also a pedicle-forceps, to be used in vaginal oöphorectomy. I always use ligatures when practicable, but in an operation for a small adherent dermoid, at which I assisted Dr. Newman, neither of us could apply a ligature satisfactorily. I lent him an instrument similar to this perfected one, that he left on the pedicle for two days with good results.<sup>1</sup> Both ends are bent in opposite directions.

#### MODIFICATION OF SIMS' NEEDLE-FORCEPS.

Here is a new needle-forceps, or rather a modification of the Sims' pattern. They are made so as to grasp full curved needles as well as straight ones; they have an extension on the end to enable the operator to use the force of the whole hand, while the thumb and two first fingers guide the motions of the forceps just as with Sims' instrument.

#### PAPILLOMA OF THE BROAD LIGAMENT INFILTRATED WITH TUBERCULOUS FOCI.

Dr. McArthur will exhibit, through the microscope, a very interesting specimen of papilloma that I removed six weeks ago from a girl 21 years of age. She has had abscesses in different parts of the body since she was three or four years old, up to two years ago. Her front teeth were decayed, and her general appearance was cachectic. She also had a complete procidentia of the uterus. In spite of the fact that she had been kept in bed nearly a month, there was still a temperature of 101° and 102°, even going as high as 103° in the afternoon, not due to the prolapse, as the uterus had been replaced and did not come out while she kept her bed. She did not tolerate a thorough examination, so I put her under ether and found a small tumor about the size of a goose egg on the posterior surface of the broad ligament. I took it to be an abscess of the ovary, although not clear about it. Her pulse was very weak. At the operation I found this mass completely invested in dark gray, adherent omentum. I could not get it out without ligating and cutting away the omentum all around. Its main connection with the pa-

<sup>1</sup> The perfected forceps has been since used in a case of vaginal ovariectomy, with good results.



tient appeared to be the infundibulo-pelvic ligament. Its connection with the uterus was so friable that, upon slight traction being made, it tore loose and left a mass of apparently rotten bleeding omentum in my hand, extending behind the uterus to the opposite side. In removing this unhealthy tissue, I had to leave a short stretch of intestine without any omentum. The interior of the patient's pelvis seemed pretty well torn to pieces and filled with ligatures. The abdominal cavity had been open about two hours, and considerable blood had been lost.

She has, however, made a good recovery, except that over-exercition or attacks of bowel complaint bring on a pain in the iliac region. The uterus is in a normal position, and hence cured of its prolapse, but not yet movable in the pelvis.

DR. L. L. MCARTHUR.—I have had the pleasure of examining this specimen, and find it to consist of a rather rare growth for this region, that is, a papilloma. By a papilloma one usually understands a structure consisting of connective tissue and capillary blood-vessels, covered with epithelium, that may be either simple or compound, according to location, in fact resembling the structure of the papillæ of the skin. Papillomata are found very commonly about the integument. It was formerly thought that papillomata were only to be found where papillæ were to be found, as in the skin, the mucous membrane of the mouth, etc. But that view was soon changed by finding that the papillomata may develop from any epithelial surface. They are exceedingly rare when found on a serous surface, and but few are on record as being found in the position in which this specimen was found. In the "Encyclopedia of Obstetrics and Gynecology" a few cases have been collected by Olshausen, five I believe, the first of which was presented by Prochaska. Papillomata of the peritoneum or of the abdominal cavity occur most frequently at that portion of the ovary that is not covered by peritoneum, or only partially covered by peritoneum. They vary in shape, consisting sometimes of a single finger-like projection, at other times presenting many ramifications. In this case the tumor, when presented to me, resembled very much the appearance of a little branch of cauliflower. I do not think it could be likened to anything that it resembled more closely. The tumor measured about three centimetres in length, and two and a half centimetres in thickness. I made microscopic sections of it and present one to-night. An instructive as well as interesting peculiarity about this is the fact that it is infiltrated with tubercular foci; there are miliary tubercles scattered throughout the papilloma. Very few cases have been recorded in which neoplasms are also infected with acute or chronic infectious diseases, hence it is worth placing on record.

Lange has recently called attention to the fact that new growths may take place upon diseased surfaces, and also calls attention to the fact that carcinoma has developed from a surface that in the first place was purely of a syphilitic character. And here we have a simple growth showing infiltrations that are decidedly malignant. In reporting the four cases he has collected, Olshausen makes an interesting comment upon the fact that papillomata most frequently develop in the uncovered surface of the ovary *because* they are most likely to be exposed at that point

to the action of irritant matter that may escape at the fimbriated extremity of the Fallopian tube, as in gonorrheal infection, in the case of tubercular pus, or of those other irritating materials that may gain admission, and explains their growing in this situation in this way. We know that papillomata do grow where the irritation is marked and continued, as for instance on the prepuce, when gonorrhea is present, or at the vulva.

I present this as being instructive and interesting.

DR. JAGGARD.—I would like to ask the President whether or no the growth was single; whether or no he explored the entire abdominal cavity.

DR. BYFORD.—I did not explore the upper abdomen, but removed all the diseased tissues I could find below. More operating would have killed the patient.

#### TWO CASES OF ALVEOLAR SARCOMA OF THE UTERUS.

DR. HENRY T. BYFORD.—I have had the good fortune during the past summer to meet three cases of soft, or alveolar sarcoma of the uterus. I believe there are only about one hundred cases on record. I have two here; the third uterus went to pieces on extraction. This makes four cases of this kind I have seen. Both of these uteri were taken from virgins, 48 years old. They both presented to vaginal indagation almost the same condition except that in one the disease extended to the external os, and both presented the same symptoms, namely, hemorrhage and pain. In neither case was the discharge very offensive. Both took from one-half to one grain of morphine a day. Both had been curetted a week before the operation, in order to reduce the uterus and render their removal *per vaginam* practicable. One of the patients, Miss M—n, had been curetted three times before. She had hemorrhage after hemorrhage, each one threatening to kill her, and when she came to me she looked like a person dying with consumption. I removed the uterus with great difficulty, as the vagina was contracted from the use of styptics. The stumps healed nicely and the patient seemed well. One morning she refused to take her food and medicine and died the same evening. We had been unable by threats or persuasion to get her to take anything but a little rice or milk and lime-water. I suppose there is no doubt that, if she had been operated upon earlier, her life would have been saved. Dr. Wing made a post-mortem examination. He found the stumps were in good condition, and declared the cause of death to be inanition. The most important cause of death was probably the exhausting hemorrhages previous to the operation.

The other patient, Mrs. Sh—, was stronger and got well without a bad symptom.

#### SARCOMA OF THE OVARY.

This specimen I bring because it is fresh. It was taken out yesterday and is a beautiful specimen of sarcoma of the ovary.

There were no adhesions nor pain. It was first discovered in July, since when it has grown so rapidly as to be the size of a man's head.

DR. JAGGARD said that sarcoma of the uterus and ovaries was a comparatively rare morbid state. While he did not wish to cast aspersions upon the adequacy of the President's diagnostic methods, still he thought the well-established custom of this and similar societies ought to be strictly adhered to in the matter. Either sections of the neoplasm, showing plainly its alleged character, ought to be exhibited, or a report by a qualified pathological anatomist should be read. The evidence upon which the diagnosis of sarcoma in the specimens presented rests, in so far as it is contained in the President's remarks, is insufficient. This material, in the absence of such evidence, is well-nigh valueless for the purposes of comparative study and record. Dr. Jaggard was moved to utter these ungracious words by the fact that an enormous amount of really valuable material had been wasted not only at this, but also at former meetings of the Society.

DR. J. FRANK (present by invitation) presented

A VESICAL CALCULUS FORMED AROUND A SILK-WORM GUT SUTURE,  
INSERTED INTO THE VESICO-VAGINAL SEPTUM.

These pieces of calculus were removed from a woman about four weeks ago. She was operated upon seven months ago, at the County Hospital, for vesico-uterine fistula. The stitches were taken with silk-worm gut, and left in. The woman made a nice recovery and the bladder held its contents for three months, when the urine commenced dribbling again through the vagina. The woman became very much distressed and upon examination I found that from the site of the stitches a calculus had formed within the bladder, about half the size of a billiard ball. I removed the calculus, and in one of the pieces I have here there is one of the stitches. The woman made a good recovery.

DR. MERRIMAN.—How did you remove the calculus?

DR. FRANK.—Through the vagina.

DR. MERRIMAN.—Did you perform any operation for closing?

DR. FRANK.—I performed a secondary operation twelve days ago.

DR. JAGGARD.—Where did you make the incision?

DR. FRANK.—In the line of the old cicatrix.

DR. MERRIMAN.—Had the stitch gone into the bladder?

DR. FRANK.—I was not present at the first operation; I should judge they worked their way into the bladder. The last operation I performed we could not find any definite edges, could not find any uterus. The first operator said he could not find any uterus. All I could see of the uterus was, in taking off the mucous membrane, in the lower edge of the fistula it looked like uterine tissue. It really is a vesico-utero-vaginal urethral fistula.

DR. MERRIMAN.—What produced the fistula?

DR. FRANK.—Tedious labor. She said they had to cut the child all to pieces to get it away.

DR. HENRY P. NEWMAN read the following paper, entitled:

## ALEXANDER'S OPERATION, WITH REPORT OF CASES.

My object in presenting a necessarily brief report of seven recent cases of Alexander's operation is: first, to invite the consideration of this Society to the operation of shortening the round ligaments for uterine displacements.

Second, to refer briefly to the manner of operating, suggesting some modifications in the *technique*, which have been applied in five consecutive cases.

The operation, as is well known, was given to the profession early in 1882, more than six years ago, by Wm. Alexander, of Liverpool.

Since then, it has been performed upward of three hundred times, as reported by different operators, with very satisfactory results. Notwithstanding these promising reports, and all that has been said and written by those who are familiar with the operation and convinced of its utility, there has been much adverse criticism from high authorities in gynecological literature.

To this criticism must be attributed largely the tardiness with which the operation has been received and recognized as a therapeutic measure.

It was early objected that the operation was unscientific, upon the grounds that it was not the round ligaments, but chiefly the sacro-uterine ligaments, which were at fault.

To this, Dr. Henry T. Byford, in a lecture on the operative treatment of retroversions, published in the March number of the *Journ. of the Am. Medical Association*, very aptly replies: "This objection is rendered untenable by the fact that when we draw the fundus forward, we restore the normal direction of the uterine axis with reference to abdominal pressure, although the whole uterus may be a trifle forward of its natural location; and by the fact that, after the os is rotated backward, the sacro-uterine ligaments tend to retract, and regain their supporting function."

The later objections have been:<sup>1</sup>

"(a) to the difficulty of finding the round ligaments; (b) the possibility of breaking them; (c) their absence; (d) the insufficiency of their retentive action; (e) the complication of the wound, and the danger of peritonitis as a result of opening Nuck's canal; (f) the violent pains to which the patient is subjected after the operation; (g) the insufficiency of the operation as regards the prolapsus and the surrounding parts, etc."

Of which objections Dr. Doléris avers, from large experience in operating, that they have no important value, and further adds: "I was almost an opponent of the procedure of shortening, in my first studies as to its value.

"Practice and experience have modified my ideas. Nearly all surgeons have followed the same path.

<sup>1</sup> Doléris, Trans. Am. Gyn. Society, p. 499, vol. XII.

"Hesitating at the beginning, they have ended by recognizing the exaggeration of their first objections.

"Therefore, for my part, I say there is neither serious difficulty of execution, nor are there grave results following the operation. Antiseptic precautions insure operative success.

"A good diagnosis and a good operative plan will insure therapeutic success."

The clinical evidence thus far obtained is even more decidedly in support of the utility of the operation.

Dr. Alexander himself, in his brilliant report of eighty cases in hospital and private practice, has demonstrated the fact that the anatomical cure of retroflexions and retroversions by shortening the round ligaments is a most certain result of the operation; and in cases of prolapsus, when he operated upon the perineum at the same time, he was equally successful with what he termed the "double operation."

The unpublished cases of our president, Dr. Byford, and those reported by Dr. J. H. Kellogg, Mich.,<sup>1</sup> are confirmatory of the success of the procedure in the hands of American operators.

Dr. Kellogg favors the operation in cases of antelexion combined with retroversion, especially when accompanied by prolapse of the ovaries; also in carefully selected cases of anteversion.

He further speaks of the benefit derived in ovarian prolapse, where the ovaries are not held down by adhesions.

Of twenty-two cases in which he has operated, twenty presented prolapsed and tender ovaries, with one or both enlarged, and in every instance he reports the prolapsed organs restored to their normal position, and, with two exceptions, they have remained there.

Dr. Wm. L. Reid, Glasgow,<sup>2</sup> in a paper read before the Gynecological Section of the International Congress, takes what he intends to be an impartial view of the remote results of the operation, and gives some opinions, *pro* and *con.*, which he has obtained by correspondence with a few prominent colleagues in England and Scotland.

While the weight of these opinions is mainly hostile, it should be borne in mind that it comes from those who have had little or no personal experience with the operation, and consequently must be based largely upon theoretical grounds.

Notwithstanding these adverse views, Dr. Reid's summary of his own cases, though few in number—eight reported—afford valuable testimony to the efficacy of the operation; and even where accidents or partial failures have occurred, the causes are obvious and modes of prevention present themselves to one who studies them in detail. He classes them as follows: "From a therapeutic standpoint, two completely cured, one nearly so, three

<sup>1</sup> Transactions of International Cong., vol. II., p. 764.

<sup>2</sup> Trans. International Med. Cong., vol. II., p. 757.

considerably improved, one in about the same state as before, and one worse, inasmuch as an inguinal hernia resulted.

"From an anatomical standpoint, six of the eight completely cured, one very greatly improved, and one bad as before the operation."

The latter, however, cannot be justly used as an argument against Alexander's operation.

It was an aggravated case of prolapse of third degree, of several years' standing.

Quoting the report: "*The uterus measured five and one-half inches in depth, was very heavy, and cervix was torn up to vaginal roof; perineum was quite gone.*<sup>1</sup> No pessary could be worn for more than an hour, except when the patient maintained the horizontal position.

"The ligaments were shortened and patient kept in bed a fortnight, getting out of bed for a few hours each day of third week, at the end of which she insisted upon leaving the hospital."

She was not again seen by the operator for three years, when this note was taken:

"Patient wore an ordinary Hodge pessary for three months from date of operation and felt quite well. *At the end of that time, during a severe exertion* the pessary was expelled, and a week or ten days afterward patient felt the uterus coming down, and also a swelling in the left groin.

"She was, however, able for work, and a year and a half after the operation was married, becoming pregnant immediately afterward.

"Was very well and comfortable during her pregnancy and labor, the latter lasting less than half an hour, although the child was large.

"On getting up nine days after the confinement, the uterus came down as badly as before the operation, but she states that she can go about pretty freely, as she has none of the pains from which she suffered before that time.

"Micturition and defecation normal. On examination, the uterus was found low down in the pelvic cavity, not retroverted, three and a quarter inches deep, and not tender.

"In the upright position the cervix comes to the vulva.

"The scar in the right groin is sound, but in the left the inguinal canal is left open, and when patient stands up, a piece of the bowel comes down at the slightest cough."

I have quoted this case thus fully, not only to show the impropriety of using cases of accidental failure against the efficacy of the operation, but also to show that the mistake may be made of expecting more from the round ligaments than even their most ardent advocate has claimed to be their normal function.

Like other operations for restoring a displaced uterus, it has a

<sup>1</sup> The italics are mine.



definite field of usefulness, and should no longer be used in a haphazard manner, nor should it be expected to do away with other accessory measures.

Due credit should be given to Dr. Doléris, Paris, France,<sup>1</sup> for his excellent paper on "Combined Operations for the Relief of Uterine Deviations or Displacements," wherein he classifies the factors which unite in maintaining the pelvic equilibrium, and endeavors to point out the indications for the performance of the Alexander and other accessory operations.

In my own cases, I had early been convinced of the advisability of using all auxiliary therapeutic measures, preparatory to shortening the round ligaments, as will be seen in the appended cases.

In three of the seven, the cervix and perineum were repaired; in one cervix alone, in one anterior and posterior colporrhaphy were done, and in one scraping or curetting the uterus for vegetations, and in each instance shortening of the round ligaments was not resorted to until other feasible methods had been given a fair trial.

This manner of procedure seems to me especially demanded in cases of procidentia, particularly when there is a capacious vagina, a relaxed anterior or posterior vaginal wall, or torn perineum; in other words, where anterior and posterior colporrhaphy and perineorrhaphy are indicated. While I would not say that, in these complicated cases, no benefit could result from Alexander's operation alone, I believe it to be good surgery to fortify it by such auxiliary measures as are known to remedy the tissues at fault, and not to over-estimate the proper function of the round ligaments.

For similar reasons I should favor the treatment of long-standing or aggravated cases of flexions accompanying backward or forward misplacements, by such methods as that devised by Professor A. Reeves Jackson and others, for restoring the integrity of the uterine walls.

The seven cases which I shall briefly outline are of such recent date that I publish them, in this connection, merely to illustrate a modified method of operating, which has been, in the main, suggested by Dr. J. Frank, attending surgeon to the St. Elizabeth's Hospital, and its adaptability verified by dissections upon the cadaver.

I begin the operation by cutting directly down upon the internal inguinal ring, using the superficial epigastric vein, and beneath this the ilio-inguinal nerve, as guides, lying as they do directly over the canal of Nuck.

The superficial landmarks are the same as are usually followed in this operation, *i. e.*, Poupert's ligament, spine of the pubis, and the anterior, superior spinous process of the ilium.

<sup>1</sup> Trans. Am. Gynecological Society, vol. XII., p. 448.

The superficial epigastric vein, as well as the internal ring, is situated midway between the two last-named bony prominences.

The primary incision, beginning just above the spine of the pubis, and extending one and a half inches or more, upward and outward, parallel with Poupart's ligament, comes at once upon the vein, which will be found in the subcutaneous fat, near the upper third of the cut.

This vein, though often the size of a goose-quill, having no material importance except as a guide, is ligated and cut across, leaving the ligature long, for facility in locating.

On reaching the underlying external oblique aponeurosis, which is easily recognized by its glistening white appearance, it is cut through in the course of its longitudinal fibres, and corresponding with the superficial incision.

The ilio-inguinal nerve is now seen lying along the course of the canal, just beneath or mingling with the lower marginal fibres of the transversalis muscles.

It is just beneath the point where the epigastric vein crosses the course of the ilio-inguinal nerve that the round ligament can be readily defined.

If the muscular and fibrous tissues surrounding the cord are picked up *en masse* by forceps, and slightly pulled upward, and then spread over the thumb or finger inserted beneath, the whitish, slightly flattened, cord-like ligament is seen.

It is now isolated, largely by the fingers, and made to run, care being used not to injure the ilio-inguinal nerve, which should be drawn to one side.

The ligaments should now be pulled upon to their full extent, or until the uterus is drawn upward into an erect or somewhat anteverted position, as is determined by an assistant's finger in the vagina, who either holds the uterus in this position by a sound *in utero* or immediately inserts a previously fitted pessary.

The ligament is stitched to each side of the canal by a suture of silk-worm, or chromic acid catgut, passing the stitch through one pillar of the canal, then into the taut ligament and along its longitudinal fibres, and returning it through the pillar of the same side.

The canal is then closed by two or three sutures of the same material, made to include a small portion of the cord, but drawn only sufficiently tight to approximate the edges.

The loop of the ligament, instead of being excised, is secured by a firm stitch uniting the proximate ends, and then folded into the wound after the method of Dr. Burt, of Boston.

The wound is now closed, the customary drainage tube inserted—supplemented by prepared iodoform wicking drawn into the depth of the tube for capillary drainage.

The ligament of the opposite side—which, after being pulled out and held by a sponge or pledget of gauze inserted beneath, was

covered with antiseptic gauze and left—is now treated in the same manner.

Strict antiseptic precautions having been used in all details of the operation, permanent iodoform dressings are applied and the wound exposed only in case of rise in temperature or excessive soiling of the dressings, until the fourth or fifth day, when the drainage tube is removed, and the wicking substituted.

Patient is kept in bed about four weeks, great caution insisted upon in getting up, and for four to five months following, no severe exertion is allowed.

The pessary is retained during this period, and an elastic abdominal support worn.

*Case I.*—Mrs. L., age 33, married twelve years; one child, ten years of age. No miscarriages. Puberty at fifteen.

Slight laceration of cervix and perineum. uterus large, prolapsed, and retroverted. Depth four and one-half inches. Troubled with menorrhagia and metrorrhagia for several months, the introduction of the sound invariably causing hemorrhage.

Suffered much pain at the menstrual period, and was never entirely free from distress in the pelvic organs.

In March last, I curetted the uterus for vegetations, removing a large quantity.

April 21st, I performed Alexander's operation. The wound did well, and patient was able to sit up at the end of the fourth week.

In the ninth week, when she returned to her home in Nebraska, the uterus was found in good position well up in the pelvic cavity. When last heard from, August 1st, she reported herself in better health than for years, and doing her own housework, which she had not been able to do for eight years.

*Case II.*—Mrs. W., 35 years of age. Had borne eight children and had two miscarriages. Had been under medical treatment constantly for two years, and had not been well for ten.

Uterus retroverted and strongly retroflexed, laceration of cervix and perineum.

February 6th, 1888, was operated upon, by Dr. R. N. Hall, for lacerations of cervix and perineum, and the uterus was dilated at the same time, for the purpose of straightening.

The flexion returning, however, I was asked to do Alexander's operation.

May 31st, the round ligaments were shortened. Some difficulty was experienced in picking up the ligaments, necessitating tearing of the tissues.

There was some sloughing in this case, referred partly to the tearing of the tissues in operating, and in part to the patient herself, who persisted in continually disturbing the dressings.

She was an extremely unmanageable patient, and on June 19th left the hospital without the knowledge of her attending physician, who abandoned the case, and consequently nothing further has

been learned of her condition, except what may be inferred from the fact that the doctor in passing has seen her around the house.

*Case III.*—Mrs P., age 36 years, had suffered for eleven years from prolapse or procidentia of uterus—ovaries large, tender and prolapsed, so that pessary was tolerated with great difficulty.

Was able to do little or nothing in the way of household duties, though the mother of a large family.

Menses irregular, profuse, and painful. When first seen, early in May last, the uterus was enlarged and heavy, appearing at the vulva, and the effort of straining or bearing down forced it without the vaginal orifice.

Vagina was capacious, and rectal and vesical walls greatly relaxed.

The operations of anterior and posterior colporrhaphy were advised and a few weeks after performed, with only partial relief.

The round ligaments were shortened August 16th, 1888. Wound healed promptly by first intention.

In fourth week patient was up and about, and left the hospital at the end of the fifth, feeling quite well, with the uterus retained in normal position.

She was seen, six weeks after the operation, at her home, and expressed herself as still feeling well. Had little or no pain at last menstrual period, and was engaged in light household duties.

Examination showed uterus held well up, and scarcely resting upon the Hodge pessary which she had been instructed to wear.

*Case IV.*—Mrs. E., age 23, married four years. One child, two miscarriages. Had suffered three years with prolapsus and subinvolution following the birth of her child. She also had lacerated cervix and perineum, and suffered more or less constant dragging pain at the menses and during the month. Flow profuse, irregular, and followed by leucorrhœa; reflex dyspeptic symptoms of great annoyance, not relieved by the usual remedies.

June 1st I operated upon the cervix and perineum, with only slight relief of the reflex symptoms.

August 24th I shortened the round ligaments nearly four inches.

The operation was followed by no unpleasant symptoms, and at the end of the third week the patient was allowed to sit up, and returned to her home at the end of the fourth week.

Five weeks after the operation, has none of her former distress in back and sides; dyspeptic symptoms are rapidly improving.

The uterus remains in excellent position and involution is taking place rapidly.

*Case V.*—Mrs. N., age 29 years, eleven years married. Three children, two miscarriages. Nine years ago began to have back-ache and bearing-down pains. From year to year these have become worse, until she has been almost incapacitated for her household duties. When first examined, some eight months ago, the uterus was found heavy, prolapsed and retroverted, cervix and

perineum badly torn, both ovaries enlarged, prolapsed and tender, so that no pessary could be endured.

In June last, the double operation upon cervix and perineum was performed, and Alexander's operation on August 25th at her home. Though lacking in conveniences and trained attendants, patient's recovery was rapid and satisfactory, requiring but little more care and attention than an ordinary cervical or perineal operation.

In the fifth week after the operation, I find the woman about the house and attending to her household duties, but exercising caution as she has been strictly enjoined.

Instead of the prolapsed and retroverted uterus, and ovaries prolapsed, tender, and enlarged, we now find both uterus and ovaries drawn well up, the latter beyond the reach of the finger.

No pain is experienced, and the patient feels herself recovered, though showing some anemia and weakness from the confinement incident to the two operations and the result of her former condition.

*Case VI.*—Mrs. G., age 34, married three years, no children. Former occupation, laundress and seamstress. Has suffered with retroversion and prolapsus for fifteen years; with distressing pains in back, with dysmenorrhea, and irregular menses followed by leucorrhea.

At her own urgent request, Alexander's operation was done the 27th of August last. In this case the healing was so prompt that, being obliged to leave the city for a short time, I yielded to the temptation to remove the stitches—in this instance, silk—on the fifth day. I left the case in care of Dr. C. W. Leigh, who reported satisfactory progress until subsequent dressing on seventh day.

On this day, some sudden movement in bed resulted in slight gaping of the wound upon left side.

On account of this, the patient has been kept in bed for the wound to heal by granulation. I expect no trouble from the accident. The uterus is held in good position, and wound in the right side is healed firmly. In other respects, she is in excellent condition and feels well.

*Case VII.*—Mrs. S., age 27, married five years; three children. Had retroversion of uterus and ovarian prolapse. Menses always painful, and often prolonged eight days. Pain in back. Uterus subinvolted, cervix and perineum torn. Leucorrhea profuse and constant. Patient very much reduced and unable to work.

Trachelorrhaphy and perineorrhaphy were performed in June and a uterine support subsequently used, without relieving her distressing symptoms.

The round ligaments were shortened four inches on September 11th.

Union by first intention, uterus held well in position and everything promises speedy recovery with good results.



The last five cases are reported simply to illustrate the anatomical results of the modified method of operating.

In each instance the healing has been by first intention, the amount of surgical disturbance, nil, and the results, to date, all that could be desired.

The advantages claimed are: the readiness with which the round ligaments are found and separated from their environment, necessitating no tearing of the surrounding parts and disturbance of the tissues about the external inguinal ring, and the terminal filaments of the broad ligament at its pubic end, with the least possible danger of hernia as an after-result.

Should it be possible, as has been suggested by Dr. Frank, and as I learn from late readings, is practised by Dr. Doléris, to do without the drainage tube, the operation and after-care would be even more simplified and devoid of some of its now possible accidents.

DR. W. W. JAGGARD.—The construction of the indications for Alexander's operation is a curious study. An eminent gynecologist, especially prominent as a skilful operator, resident in a metropolis, with a large and uncommonly exacting clientèle, writes: "For unmanageable cases of posterior displacement—which I have not yet met with—a new operation has been devised, that of shortening the round ligaments. But since this operation is in its infancy, and I thus far have not had any need of resorting to it, I cannot yet recommend it to you."—(Goodell, "Lessons in Gynecology," 1887, p. 165.) On the other hand, a practitioner at Land's End sees the need of this operation one hundred times in three years! This difference in opinion and practice requires no comment, and the moral is perfectly obvious. It reminds one of Billroth's remarks on the unjustifiable frequency of excision of the pylorus for cancer. After he had determined for himself the feasibility of the operation, he waited just four years before he saw a case that indicated the procedure. Within six months of the publication of this case, the operation had been performed some half-score of times by minor surgeons.

In the cases reported this evening, two conditions were uniformly present—in each case the uterus was perfectly movable and easily replaceable.

Before resorting to such an heroic measure as Alexander's operation, it seems to me to have been the plain duty of the operator to attempt persistently the bimanual correction of the displacement, and the retention of the uterus in normal position by a suitable pessary. It is not sufficient to say that "pessary treatment" had been unsuccessfully tried before the cases came under his observation. Nowadays, it is the surgeon's duty, not merely to perform an operation, but also to determine for himself the nature and force of the indication.

For myself, I have as yet encountered no case presenting a clear indication for shortening of the round ligaments, and, hence, I have never performed the operation. But I have frequently seen the operation performed by others. In one case, the round ligaments were shortened to correct the retroversion of an infantile uterus, no bigger than the end of your thumb, in a virgin of eigh-



teen. In two cases, the retroversion was due to subinvolution, and the operation was done within twelve months of the antecedent confinement.

I desire to limit my remarks to the single point of indication for the operation. I have no intention, at present, to discuss the absolute merits of the procedure, nor its claims in comparison with the devices of Emmet, Schücking, and others. In the interesting paper read this evening, in my opinion, the indication for Alexander's operation is adequately sustained in not a single case.

DR. J. FRANK.—There is a question in my mind as to whether the operation is performed for disease of the uterus or of the round ligaments. It can be either, although the trouble has always been referred to the uterus and not to the round ligaments. The uterus can be retroverted because the round ligaments are diseased, or the uterus may be enlarged and drag upon the round ligaments, and still the fibres may be in a healthy condition. The round ligaments are made up mostly of elastic fibres, and if there is degeneration or atrophy, I do not think the operation would be useful. I think, just as Dr. Jaggard does, that much can be accomplished with pessaries.

There is another question about this operation. Will the cicatrix that is made by the incision last? Won't it be the same as in hernia operations; after a while the cicatrix will begin to atrophy and soften, and allow the womb to go back in its place?

DR. HENRY T. BYFORD.—I have so far operated in twenty-one cases and believe in the operation as at first, but do not operate as much. I have had two failures. They were failures because I ought not to have performed the operation. In one case there was salpingitis with adhesions; in the other case there was an enlarged ovary and hydro-salpinx. The case of salpingitis resulted in slight peritonitis, with a temperature of 102° F. for several days. I took out the pessary at the end of six weeks, and at the end of two months, when she was at her housework, retroversion and peritonitis recurred. The uterus can now be easily held up by a pessary, while it could not before the operation, and will remain up after the pessary is removed until some strain forces it down. At present it is in position without a pessary. I think the uterus would stay in good position if the patient would allow me to remove the enlarged tube, but as it is, she is better off than before the operation. In all of my operations, I now leave the pessary in place from six months to a year.

I had another case which might be called a failure, as an inguinal hernia resulted. The patient had been to some of the most eminent gynecologists in Chicago, one of whom wanted to remove the ovaries. She could not tolerate a pessary of any description. Now she wears a pessary without trouble; the uterus is up, and she is one of the most grateful patients I have, in spite of her rupture. On account of this hernia, I threw aside my catgut and I now use none but silk-worm gut sutures, and leave those that close the canal and hold the ligament.

One great drawback to the operation is that the patients are not always immediately cured of symptoms. If there have been pelvic contractions or adhesions, there may be a dragging on these for some months. The first case I had was of this kind. The pessary was left in two months. She complained long afterwards of a dragging on the groins, but at the end of a year she could, for the first time in several years, do her own housework and take care

of her home. She had previously had gynecological treatment for five years, the last two by myself.

In regard to the technique of the operation, I think that Dr. Jaggard is right in saying that many bungling operations are done, but that has nothing to do with the indications for so new an operation. It is possible to do a good operation. Suppuration should be exceptional. I use drainage for twenty-four hours, merely to let out the bloody oozing.

It is objected that the round ligament is not a normal support of the uterus. We do not shorten the round ligaments to support the uterus in cases of retroversion, as is so generally misunderstood; we merely turn the fundus forward and depend upon the normal abdominal pressure to hold it forward.

Of course, the operation is only for the few cases in which the displacement causes symptoms, and in which it can be replaced, but cannot be permanently retained in position by less available or less dangerous means.

I would like to state a valuable experience I had this morning: I took out the ovaries because of retroversion and antelexion, and demonstrated the cause of the retroversion to be contraction of the infundibulo-pelvic ligaments. In this case, pulling forward the fundus would have pulled against these ligaments, and I doubt if the shortened round ligaments would have been strong enough to hold. I think this is often the cause of retroversion connected with antelexion.

DR. H. P. NEWMAN.—Just a word in regard to some criticisms on the paper.

I wish to correct Dr. Jaggard's mistake as to the number of cases reported by the physician in the little town in Michigan, that is, Dr. Kellogg. Instead of three hundred operations that he has done, there are some twenty odd, I think. The operation has not been reported as being done more than three hundred times in this country and in Europe.

Battle Creek is a small town, but it has a prominent sanitarium, frequented largely by patients with chronic uterine ailments. Dr. Kellogg has had ample opportunity to test the advantages of different methods of treating uterine misplacements, and says that in upward of two thousand cases, treated in the past twelve years by all known remedial agents, he has effected cures in only about four per cent of the number.

This may be one of the reasons why he resorts to this mode of operating.

In regard to the statement made by Drs. Sawyer and Jaggard, that some of our prominent gynecologists do not find available material for this operation; the same might be said of Emmet's operation in its early history, and other now well-established surgical procedures.

As is well known, nearly every new surgical operation or therapeutic measure has some prejudice to encounter and to overcome.

As to the use of pessaries: In six of the seven cases pessaries had formerly been used. One patient with procidentia could wear the instrument for only a short time, when, if not expelled involuntarily, it produced such pain by pressure upon the prolapsed and tender ovaries that its removal became necessary. Also bear in mind that in four of the seven cases the ovaries were prolapsed, and that is one reason why the use of such uterine supports was impracticable.

In each instance the patients had received approved local treatment previously to my seeing them, and I myself had exhausted the best-known methods in each case before resorting to Alexander's operation.

I think these are the objections in the main. The same have been made before, and are, perhaps, a little out of date. With the exception of that one which relates to the esthetic effect of the scar, they have all been brought before the profession and have been well and effectually answered.

DR. W. W. JAGGARD.—I beg to state that I made no allusion to Dr. Kellogg nor to Battle Creek. However, since Dr. Kellogg's name has been mentioned, I may be permitted to say that he writes me that, up to the present time, he has performed Alexander's operation sixty-four times.

*Annual Meeting, Friday, October 19th, 1888.*

*The President, HENRY T. BYFORD, M.D., in the Chair.*

After the reports of the secretary, treasurer, and editor were read and accepted, the retiring President read a paper entitled,

#### TWELVE MONTHS OF ABDOMINAL AND VAGINAL SECTION,

Of which the following is an abstract :

Forty-eight cases were tabulated, twenty-seven abdominal sections and twenty-one vaginal sections with a mortality of seventeen per cent. Although the abdominal cavity was always opened in the cases of vaginal section, all of the deaths occurred in the abdominal sections. Two were from hemorrhage, three from exhaustion, one from obstruction of the bowels, and one from heart failure.

The deaths from hemorrhage are ascribed to the author's faithfulness in following out the teachings of the acknowledged authorities. The recommendation, almost always given, to tie the pedicle in halves and to transfix it at a non-vascular place, makes the point of transfixion in most cases a weak one, from which the ligature is apt to tear out. A safer method is described in which the pedicle is transfixed in two places by one thrust of the needle. The death from heart failure might possibly have been prevented by a liberal use of stimulants. Stimulants are recommended for all cases of feeble circulation or bad nutrition after the first two or three days, to be given between the hours of 2 and 8 A.M.

In preparing the patient, he prefers as a laxative six grains of blue mass followed by a saline and a glycerin enema. After the operation he prefers salines.

No morphine is used in the after-treatment, pain being treated by aromatics, the rectal tube, and glycerin and water enemata.

The attainment of absolute asepsis is considered impossible, and not always necessary to obtain good results. The peritoneum covering the intestines is held to be the most dangerous portion to

tamper with ; they are touched only when absolutely necessary and are kept constantly covered.

The following officers for the year 1888-1889 were then elected :

*President*, Charles T. Parkes.

*First Vice-President*, E. J. Doering.

*Second Vice-President*, E. C. Dudley.

*Secretary*, Edward Warren Sawyer.

*Treasurer*, E. F. Waxham.

*Editor*, W. W. Jaggard.

The Society then adjourned to a banquet at the Hotel Richelieu, tendered by the retiring President.

## TRANSACTIONS OF THE OBSTETRICAL SOCIETY OF PHILADELPHIA.

*Thursday, October 4th, 1888.*

DR. T. M. DRYSDALE *in the Chair.*

DR. JOSEPH PRICE reported the following recent work in

### ABDOMINAL SURGERY:

*Removal of appendages for chronic salpingitis*, with occluded tubes and adherent ovaries, one side, 1; both sides, 7; with double ovarian cystoma, 3; and with hydro-salpinx, 1. For *uterine myoma*, 1. For *uterine fibroma*, 2. For *double pyo-salpinx*, with purulent peritonitis, 1; with ovarian abscess on one side, 1; with peritonitis and double ovarian cystoma, 2; *one sided pyo-salpinx*, 6; with post-puerperal peritonitis, 1; with ovarian abscess same side, 1; with ovarian abscess on opposite side, 1; with ovarian cyst one side, 1; with suppurating ovarian cyst and broad-ligament cyst, 1. For *double hydro-salpinx*, 1. For *hydro-salpinx, one side*, with ovarian cyst, 1; with ovarian and broad ligament cyst, 1. For *double dermoid cyst*, with general peritonitis, 1. For *dermoid cyst* of one side, with suppurative and purulent peritonitis, 1; with cyst on other side, 1. For *ovarian cysts* simple, 6; with salpingitis, 1. For *double ovarian cystoma*, with double salpingitis, 1; with fibroid uterus, 1. For *extra-uterine pregnancy*, 4; with cyst on opposite side, 2; with double abscess of one ovary and colloid cyst of other, 1. For *miliary tuberculosis of appendages*, 1. For *ruptured papillomatous ovarian cysts*, 1. *Hysterectomy*, for fibroid uterus, 1. For *sarcoma of uterus and intestines*, 3. *Exploration and drainage*, 2. *Resection of bowel*

for carcinoma of intestine and abdominal walls, 1. Obstruction of bowels, 3. Sarcoma of spleen, 1. Pelvic abscess, 1. Post-puerperal peritonitis, with removal of omentum, 1. Perforating typhoid ulcer, 1. Ventral hernia, 1. Total, 65.

Mortality, one death, double pyo-salpinx, with double ovarian cyst and purulent peritonitis; autopsy showed pyo-nephritis, seven days. One death, extra-uterine pregnancy, moribund thirty-six hours before operation; twenty-four hours. One death, supra-vaginal hysterectomy for sarcoma of uterus and all abdominal viscera, four days. One death, resection, twenty inches of large and small intestine for carcinoma. Hopeless; twenty six hours. One death, exploration and drainage, large multilocular cyst right ovary, general malignancy, parent cyst evacuated, hopeless operation for temporary relief, four days. One death, perforating typhoid ulcer, evacuation of large quantity of muddy fluid and lymph. Reacted well for twelve hours—thirty-six hours. One death, hysterectomy for sarcoma of uterus and left ovary—bowel involved, third day. One death, strangulation of ileum, released adhesions, recurring attacks of collapse for three days before operation. Hopeless, twenty-five hours. Total deaths, 8.

The mortality list gives a small group of those hopeless cases we are called upon to give some relief. In short, they simply command you to do *something* for relief. If there is one chance they demand it. As a rule, they have been seen by one or many physicians, and have refused any early operative interference, or delay has been advised. We find in such cases just those pathological conditions that should at least induce us to recommend, nay, more, to insist and urge the removal of all such murderous diseases. If all operators and practitioners recognized the importance of early operation in these and analogous conditions, as they do in strangulated hernia, the mortality would be greatly reduced and a world of suffering saved. Early interference in ovarian cystoma is generally taught now. The importance of the early removal of the appendages in fibroid and myomatous uteri has not received that attention it deserves. The tubes and ovaries are diseased in a majority of these cases, and much of the suffering is due to their pathological condition. The mortality and the suffering in pelvic inflammations, the sequelæ of gonorrhea, are very great, and the country is covered with neglected cases. If cases carrying typical large pus tubes in this city were distributed, there would be at least one in every street, alley, and court. In my experience with small tumors in young women, I have been convinced of the propriety of early removal on account of accidents incident to their development and growth. Many are dermoids and prone to strangulation and suppuration, recurring attacks of localized peritonitis complicating their condition. I have been called upon to operate upon at least six of these young women in bed, emaciated, with quick pulse and high temperature,



the general condition bad for so serious an operation as abdominal section. If these operations are done early while the patient is in fair condition, every risk of the operation is minimized; short anesthesia, short incision, rapid enucleation, secure ligaturing, thorough irrigation, and good drainage; the mortality will be very low, and the much complicated and desperate cases rare.

DR. J. M. BALDY thought that such an opportunity, as was now offered by one of the cases presented by Dr. Price, should not be neglected, and that he would say a word about early operation in cases of tubal disease. A great deal of condemnation had been expressed of these operations, on the ground that very little trouble was likely to arise subsequently. The case referred to had been under the care of Dr. Daland, and that he had had the pleasure of examining the post-mortem specimens with the doctor. The specimens, together with the clinical history, set the subject forward in a very vivid way. The history of the case was from the beginning one of tubal inflammatory trouble. Seven years before her last illness she had fallen into the hands of one of the oldest and best-known gynecologists in the city, but one who is not an operator. Dilatation and other well-known methods of treatment were persisted in for months. Her real condition was evidently not recognized. She went on from bad to worse, and finally in her last illness fell into the hands of Dr. Daland. She fell into collapse three times during this sickness, and an operation was urged both by her attendant and the consulting surgeon; their hands were, however, tied by the consulting physicians. At the last moment an operation was agreed to, but the patient died. The specimens and autopsy showed double pyo-salpinx, with both ends of both tubes impervious. Intestines were bound down in a mass on the tubes, and strangulation had occurred. Such a condition of affairs should not have been overlooked by any one, and an operation was strongly indicated. The case operated on any time during those seven years would have been saved with little risk. The case ran a course quite common, and which can only be prevented by early operation. In answer to a question from Dr. Da Costa as to how he knew there had been this condition seven years ago, he said that the woman had suffered continually with the same symptoms from the first; that she had either had the same condition then or it had been aggravated from a mild to a severe form of the disease by the treatment she had received.

DR. WM. GOODELL could corroborate the statement that the appendages were diseased in fibroid tumors. The larger the tumor the more likely are the ovaries and tubes to be diseased and the harder to remove. He was not sure but that, in young women where the tumor was growing rapidly, it would not be better to remove the appendages early. Some years ago he had thought that dermoid tumors were solitary, but that two years ago he had removed a dermoid from each side, and had since noticed in the literature a number of others reported.

DR. M. PRICE said that the delay in treatment of many of these cases was due to the erroneous teaching in regard to inflammatory pelvic troubles. His belief was firmly fixed that they began as tubal trouble. In such cases leakage took place and set up other



inflammatory trouble. He had been called in consultation to a case recently which was being treated as cellulitis, as usual. The patient had been an invalid for years, had been blistered, etc. The attack was relieved temporarily, but had subsequently returned, and she was now in a bad septic condition. The tubes contain pus, and the woman will either die of her trouble or be relieved by an operation. Her attending physician is a good man, but he has been taught that every trouble in the pelvis of an inflammatory character was cellulitis.

DR. HOFFMAN had lately come across a patient with fibroid tumor who had been operated on three years before, but whose appendages had not been removed. She had great pain, and in one of our large institutions her trouble had been pronounced *uterine neuralgia*. The operation revealed the colon adherent throughout almost its whole extent. Both appendages were diseased, and he had absolutely to dig them out. These difficulties probably caused the former operator to stop, and he would not have overcome them had it not been for the kind aid of Dr. Price.

DR. THEOPHILUS PARVIN exhibited a specimen of

#### EXTRA-UTERINE PREGNANCY

removed by Mr. Tait in the latter part of August. Pregnancy was supposed to have advanced six or seven weeks. Rupture had taken place two days before the operation. The patient was doing well when he last heard of her condition—four days after the operation. He thought that Mr. Tait was really the most wonderfully expert abdominal surgeon he had ever seen. In his work no antiseptics are used; perfect cleansing of the hands with soap, water, brush and towel; perfect cleansing of the abdomen; incision through the skin and underlying tissues; hemostatic forceps used if necessary, but frequently not required; the use of forceps to take up the tissues as the peritoneum is approached; the raising up of the peritoneum almost an inch, so that there is no risk of injuring anything beneath the membrane; incision into the peritoneum; the moment the incision is made the introduction of one or two fingers, or rather the index finger and the thumb. In this case the diagnosis was not positive, only probable, before opening the abdomen; but as soon as he had introduced his fingers into the abdominal cavity he said that it was a case of extra-uterine pregnancy with rupture of the tube. It took probably five minutes to bring up the ruptured cyst and ligate the tube with the Staffordshire knot. After removing the tube and ovary, water was poured in through a funnel, to which was attached a rubber tube with a nozzle. The metal nozzle was pushed around in all parts of the abdomen, so as to wash out all of the clots. In this particular case two pitcherfuls of water were used. A drainage-tube was introduced, and three stitches closed the abdominal incision. This patient did not have a temperature above 100°, and when seen three days later, her recovery seemed almost absolutely certain.

Dr. Parvin also exhibited the following instruments :

#### THE AXIS-TRACTION FORCEPS

of Dr. Stephenson, professor of obstetrics in the University of Aberdeen. The forceps closely resembled the Simpson, being only a little longer and the pelvic curve greater. The traction is hooked on in front of the lock after the forceps are applied.

#### DELORE'S FLEXIBLE BLUNT HOOK.

PAJOT'S CURETTE FOR REMOVING THE REMAINS OF A MISCARRIAGE, consisting of a curette, the curve of which may be altered while the instrument is within the cavity of the uterus, and to which different-sized extremities may be attached.

#### DOLÉRIS' ECOUVILLON

for brushing out the cavity of the uterus after incomplete abortion. Before introducing the instrument it is dipped in an antiseptic solution. To this treatment its inventor has given the name of *ecouvillonnage*. Sometimes the use of the curette precedes that of the *ecouvillon*.

#### MATHIEU'S INSTRUMENT FOR WASHING OUT THE UTERUS,

consisting of two tubes lying closely together, with small openings on their approximated surfaces. After introduction into the uterus, the two tubes are separated by means of a screw, leaving a space for the water to flow from the uterus.

DR. WM. GOODELL thought that, after seeing Stephenson's forceps, he could justly lay claim to all priority in the axis-traction device. Many years ago, in his work at the Preston Retreat, he found that his back so often gave out while making axis-traction with his left hand on the lock of the ordinary forceps that he sewed a stirrup to the end of a leather strap. The other end of the strap he wound around the forceps handles near the lock, and in the stirrup he placed his foot. He usually hung the strap so near the floor that his heel rested on the latter, the traction force being made merely with the toes or ball of the foot. He thought Dr. Price had probably seen this impromptu device hanging on a gas fixture in the lying-in room of the retreat. Of course, the woman lay on her back with her nates drawn over the edge of the bed.

DR. PRICE remarked that he had seen the device spoken of by Dr. Goodell.

DR. B. F. BAER read a report of two cases of

#### MULTILOCULAR OVARIAN CYSTOMA

of unusual size and very rapid growth. The first was sent me by Dr. J. A. Clark, of Bedford, Ga., and on July 31st entered my private hospital. She is *æt.* 28 years; married; has had two children after normal labors, the younger being six years of age. About nine months previous to this date she was attacked with severe pain in the right ovarian region, and was confined to bed

for several weeks. Her menses had always been regular, but at this time the flow was profuse and continued two weeks. Soon after this attack of pain and metrorrhagia she noticed a swelling in the painful region, on the right side. She rapidly increased in size, and began to lose flesh, and occasionally to have attacks of pain and metrorrhagia similar to the one noted above, the flow for several occasions lasting for a month. Her abdomen was enormously distended, especially in the upper portion. It was rather symmetrical, dull on percussion all over the anterior and lateral portion except in the lumbar regions, where slight resonance was observed. There was fluctuation in the lower part, but in the upper portion it was very obscure. The skin on the lower surface of the abdomen was in a condition of elephantiasis.

Vaginal examination revealed the uterus slightly retroverted, rather mobile, and gave a sound measurement of three inches. The lower surface of the tumor could just be felt by the vaginal examination. The patient had a very weak pulse; indeed, it could not be felt at all at the left wrist, and she had great dyspnea on the slightest exertion.

Operation was performed on Aug. 2d. I was assisted by Drs. J. C. Bowen, G. H. Franklin, J. A. Clark, and H. C. Bloom. The tumor, which was found to be closely adherent everywhere, was a multilocular cyst and weighed about ninety pounds. The patient made a good recovery.

On Sept. 5th I was asked by my friend, Dr. B. Armstrong, of Lock Haven, to meet him in consultation in a case of abdominal tumor, which he stated was in such extreme condition that he feared she might not live until my arrival. I saw the patient on Sept. 6th. She is 21 years old and single; puberty had occurred at 12 and menstruation had always been profuse, coming on every three weeks; is always attended with some pain; she did not consider this abnormal, and so far as she knew was perfectly well up to *four months* previous to the above date, when she was suddenly attacked with severe cramp like pain in the right iliac region. This attack occurred about the time of her expected menstruation and continued until the flow followed, when she gained considerable relief. But she remained ill from that time, being able to go about, however, in the intervals between the series of attacks of pain of similar character which now followed. Within two weeks after the first attack she noticed that her abdomen was increasing in size in the painful region, and from that time to the present—*just four months*—her abdomen has grown to an enormous size. I found her occupying a semi-recumbent posture and breathing with difficulty. She was emaciated to such a degree, and the tumor was of such size, that she was almost hidden from view beneath it. The surface of the abdomen was purple from interference with the capillary circulation, and the veins were greatly distended. The abdomen was symmetrical and smooth. Fluctu-

ation was rather obscure. There was dulness on percussion all over the anterior and lateral surfaces of the tumor, except at a point far back in the left lumbar region, where slight resonance was found. On the upper right border of the tumor, in the region of the liver, there was an apparently solid mass, shaped somewhat like the liver, suggesting the possibility that the cyst had grown from that organ. This was given more prominence on account of the rapidity of the growth. The patient was unable to retain anything on her stomach, and she had not slept, except at short intervals, for weeks. Her bowels were constipated and the urine was passed frequently and in small quantities. Her pulse was 140 and very feeble. Her expression was an appealing one, and she begged to be relieved.

A tablespoonful of whiskey was given and repeated in two hours, just before the administration of the anesthetic. I was ably assisted in the operation by Drs. Armstrong, Ball, and Watson, of Lock Haven. An incision two inches in length was made. The surface of the cyst was adherent to the peritoneum. After separating the adhesions as far as I could, I plunged a large trocar into the tumor. But the contents were semi-solid, I therefore cut through the cyst-wall and proceeded to break up and remove the contents. The cyst was adherent to everything it touched—liver, stomach, and other viscera—but the adhesions were weak, and in ten minutes' time the tumor was removed and the pedicle, which was thick and vascular, was ligated. The omentum was so firmly adherent to the cyst that it was ligated and amputated. The friable cyst-wall was ruptured in many places, and a great deal of the viscid semi-fluid material escaped into the abdominal cavity; but I did not lose time in trying to prevent this. When the tumor was removed, what was left of the patient was an exceedingly small portion. The emaciated abdominal walls lay close to the spinal column and sunk into the pelvis. She looked more literally "nothing but skin and bones" than anything I had ever seen before. The abdominal cavity was thoroughly washed out by irrigation through a fountain syringe, and I was careful to pass the nozzle high up among the intestines and under the surface of the liver and diaphragm. The water returned clear and the incision was closed around a drainage tube and the patient returned to bed with a better condition of pulse and appearance than she had had before the operation. She did not show any evidence of shock, and was conscious almost as soon as she was placed in bed. Her body was so emaciated that it was necessary to pack with cotton about the pelvis and along the spinal column, as the bones almost projected through the skin, and at several places bed-sores were apparent. The right ovary seemed smaller even than its natural size and appeared healthy; it was therefore not removed. The after-history of the case has been without event. Her temperature never rose above 100° and was normal on the third day after

the operation. The pulse gradually diminished from 140, and was normal on the fifth day. The drainage tube was removed within thirty-six hours after operation. The sutures were removed on the eighth day, when union was found complete, except at the lower portion where the drainage tube had been, and this has since healed. She began taking solid food on the third day, and on the fourth day her bowels were moved. The tumor weighed about seventy-five pounds.

The points of considerable interest in these cases are the location, character, and severity of the early symptoms, as well as the location of the tumor when first noticed (on the right side), while the tumors were of the left ovary, the right being perfectly healthy ; the large size and very rapid growth of the tumor ; the rapid recovery of the patients although in extreme condition, especially of the case last mentioned ; the fact that the two cases are alike in nearly all particulars, the only difference being that in the second case the rapidity of the development was much greater, and the severity of the symptoms likewise greater ; and lastly, the method of removal of the tumor, that is, the breaking up of the semi-solid contents with the hand, thereby permitting their removal through a very short incision. I wish here to especially call attention to a fatal case which occurred in my practice several months ago, and which forcibly illustrates that there may be danger in introducing the hand for the purpose of breaking down contents of the tumor, not knowing exactly the location of the intestines. In the case referred to, the friable wall of the main cyst had ruptured and some coils of intestine were found to be in the cavity and closely adherent to the more solid portion of the contents. Very careful manipulation was necessary to separate the bowel, which was finally done after considerable time had been spent in the effort. Ordinarily, however, where the cyst has not previously ruptured, the procedure is a safe one when due care is observed.

(To be concluded.)

---

# INDEX TO VOLUME XXI.

## A.

	PAGE
Abdominal and vaginal section, twelve months of. Byford.....	1302
fixation of the retroflexed uterus. Olshausen.....	994
fixation of the retroflexed uterus. Saenger.....	994
surgeon, the relations of the, to the obstetrician and gynecologist. Vander Veer.....	1078
surgery, a year's work in. Dudley.....	874
surgery. Price.....	1303
surgery, remarks on pelvic peritonitis, and on a year's work in (forty cases). Eastman.....	916
tumors, cystic, the opening of, by two operations. Keil.....	1110
wall, fibroid tumors of the. Reed.....	1102
walls, desmoid (fibroid) tumors of the. Ill.....	1093
Abscess of the ovary. Dudley.....	1274
ovarian, a case of so-called; small suppurating ovarian cyst. Baer.....	530
ovarian. Boldt.....	511
ovarian. Price.....	526
pelvic, a contribution to the study of. Cushing.....	1070
pelvic, opening into the rectum, report of cases of chronic. MacKenzie.....	713
pelvic, the treatment of. Sutton.....	1037
perityphlitic, originating in typhlitis. Hoffman.....	1185
puerperal. Gunning.....	1277
Abscesses involving the ovaries, tubes and intestine, Martin's method of operating in high seated. Bigelow.....	485
Accidental hemorrhage in labor. Warren.....	1020
Acker. Inflammation of the salivary glands following labor....	923, 955
Address, annual, Amer. Ass'n of Obstetricians and Gynecologists. Taylor.....	1064
annual, Gynecological Society of Chicago. Earle.....	192
President's, American Gynecological Society. Battey....	1047
Adenoma of the cervix, suspicious and malignant. Fuerst.....	782
of the uterus; its benign and malignant forms. Ruge....	1105
Adhesions, peritoneal, in case of retroflexed uterus and prolapsed ovaries, the diagnosis and loosening of. Schultze.....	111
After-coming head, how to expedite the delivery of the. Winckel..	991
head, the treatment of the. Schiedt.....	282, 319
Ahlfeld. Does the liquor amnii contribute to the nutrition of the ovum?.....	98
Expectant method or Credé manipulation?.....	1225
Intra-uterine movements of the fetus not hitherto described. ....	1106
Placenta previa.....	1104



	PAGE
Albuminuria and disease of the placenta, the connection between.	
Wiedow.....	223, 1118
Alexander's operation and hysterorrhaphy. Polk.....	1271
operation for shortening the round ligaments, the value	
of. Estimated from the results of twenty-three	
cases. Mundé.....	1121
operation, with report of cases. Newman.....	1291
Amenorrhea in connection with diabetes mellitus and insipidus.	
Cohn.....	445
Amputation, high, of the uterus for cancer. Reamy.....	1645
of the cervix for carcinoma; consecutive miscarriage.	
Lee.....	400
Anderson. Remarks on the nutrition of the fetus.....	702
Anemia, chronic, and wasting in newly-married women; some of	
the causes of their persistence and incurability. Johnston.....	113, 187
Anteflexion of the uterus, the etiology, pathology and treatment of.	
Thomas.....	1043
Apoplexy, placental. Hamill.....	731
Appendages, laparotomy for removal of the; death from ether (?).	
Dudley.....	513
the uterine, removed from two cases by vaginal sec-	
tion. Byford.....	872
uterine, and small ovarian tumors, removal of the, by	
vaginal section, with a report of twelve success-	
ful cases. Byford.....	337
uterine, laparotomy for removal of the, for the relief	
of pelvic pain and recurrent attacks of pelvic in-	
flammation. Hall.....	1209
uterine, removal of the—five cases. Jones.....	158
Arm, diseased, dystocia from, rare case of. McLean.....	72
forearm, etc., tumors of the fetal, a rare case of dystocia	
caused by. McLean.....	391
snaring the, in utero during version and extraction in con-	
tracted pelvis. Schatz.....	1004
Asphyxiated new-born child, resuscitation of the. Kelly.....	419
Aspiration, diagnostic, of an ovarian cyst. Mundé.....	614
Axis-traction forceps, experience with the. Bumm.....	1113
forceps. Parvin.....	1307

## B.

Baer. A case of so-called ovarian abscess; small suppurating ova-	
rian cyst.....	530
Case of non-papillary intra-ligamentous cyst.....	622
Case of traumatic hemorrhage into an ovarian cyst followed	
by peritonitis; operation; recovery.....	528
Multilocular ovarian cystoma.....	1307
Specimens of inflammatory tubal trouble.....	632
Baldy. Hysterectomy, ovariectomy, and abdominal section on one	
subject.....	945
Barnes. The causes, internal and external, of puerperal fever.....	446
Battey. President's address, American Gynecological Society.....	1047
Battlehner. Inversion of the uterus.....	1116
Baumgaertner. The operation for cervical carcinoma.....	1112
Beckwith. Removal of a vaginal tampon encrusted with a complete	
shell of lime salts, twenty-nine years after its insertion.....	13
Bed-pan, Kelly's rubber, and perineal crutch. Coe.....	615
Bigelow. Martin's method of operating in high-seated abscesses in-	
volving the ovaries, tubes, and intestine.....	485
Bladder, fibrinous cast from. Freeman.....	407
injury to the, during laparotomy. Saenger.....	1006

	PAGE
Blanc. The action of ergotin on involution of the uterus.....	448
Blood cysts occurring in the peritoneal cavity, contribution to the subject of. Kleinwaechter.....	444
during pregnancy, the changes in the. Meyer.....	336
Bluett. Insertio funis velamentosa.....	437
Boldt. Dermoid cyst of the ovary.....	710
Fibro-cystic tumor of the uterus.....	512
Interstitial salpingitis.....	122
Laparotomy for septic peritonitis.....	408
Modified Martin colporrhaphy needles.....	177
Ovarian abscess.....	511
Suppurative exfoliative cystitis.....	350, 402
Trachelorrhaphy scissors.....	399
Bones, intra-uterine fractures of the, a case of multiple. Link.....	444
Boxall. Scarlatina during pregnancy and in the puerperal state, 547, 553, 666	
The conditions which favor mercurialism in lying-in wo- men, with suggestions for its prevention.....	985
Bozeman's uterine catheter, recent modifications of. Jaggard.....	1286
Breast, the very early removal of the entire, for suspected cancer following injuries, and evidenced chiefly by pain. Janvrin....	503
Breisky. The management of advanced extra-uterine pregnancy....	559
Bright's disease during pregnancy, a case of. Herman.....	438
Broad ligament, a primary myoma of the, and a table of seventeen collected cases. Holmes.....	211
ligament, cyst of. Price.....	525
ligament, cyst of the. Tuttle.....	611
ligament, papilloma of the, infiltrated with tuberculous foci. Byford.....	1287
Bromwell. Papoid in the treatment of diphtheria.....	835, 864
Bronchitis in children. Swift.....	54
Brothers. The treatment of extra-uterine pregnancy by electricity, 474	
Bruehl. The induction of premature labor by means of the constant current.....	444
Buckmaster. Notes on uterine flexions and versions.....	397
Bumm. Experience with the axis-traction forceps.....	1113
Byford. A case of vaginal hysterectomy.....	427
A new uterine elevator.....	421
A subserous fibro-myoma of the cervix-uteri and an ova- rian cyst.....	1205
Dermoid cysts of the ovary.....	1205
Fibro-sarcoma of the uterus and broad ligament.....	201
Hydro-salpinx.....	201
Modification of Sims' needle-forceps.....	1287
Multiple subserous fibro-myomata of the uterus.....	869
Papilloma of the broad ligament infiltrated with tuber- culous foci.....	1287
Pedicle-forceps for vaginal oöphorectomy.....	1287
Removal of the uterine appendages and small ovarian tu- mors by vaginal section, with a report of twelve suc- cessful cases.....	337
Sarcoma of the ovary.....	1289
Self-retaining drainage tubes for pelvic abscesses opening into the rectum.....	1286
Specimen from Tait's operation.....	1206
The so-called physiological argument in obstetrics.....	897
The uterine appendages removed from two cases by vagi- nal section.....	872
Twelve months of abdominal and vaginal section.....	1302
Two cases of alveolar sarcoma of the uterus.....	1289

	PAGE
Byford. Two uteri removed per vaginam for fibro-sarcoma and carcinoma respectively.....	642
Uterus removed for carcinoma of the cervix.....	870
Uterus removed per vaginam for fibroids.....	743
Byrne. Laparo-hysterectomy.....	178
C.	
Calculus, large vesical, in a young girl—operation. Reamy.....	1206
urethral, of unusual size. Schatz.....	1000
vesical, formed around a silk-worm gut suture, inserted into the vesico-vaginal septum. Frank.....	1290
vesical, with a cotton nucleus. Sims.....	843
Cancer of the uterus, medullary, complicated with extra-uterine myoma, pelvic abscess, and pyo-salpinx, vaginal hysterectomy for; recovery. Reed.....	884
high amputation of the uterus for. Reamy.....	1045
recent hysterectomies for. Post.....	176
suspected, following injuries, and evidenced chiefly by pain, the very early removal of the entire breast for. Janvrin.....	503
uterine. Thompson.....	582, 635
Carcinoma, amputation of the cervix for; consecutive miscarriage. Lee.....	400
and fibroid; explorative laparotomy. Nilsen.....	1183
cervical, the operation for. Baumgaertner.....	1112
of a uterus bilocularis, case of. Janvrin.....	68
of the body, a case of extirpation of the uterus for primary. Lewers.....	777
of the cervix. Fenger.....	90
of the cervix, the condition of the mucosa of the uterus in. Eckart.....	1114
of the cervix, uterus removed for. Byford.....	870
of the uterus, contribution to the treatment of. Chrobak.....	443
uteri and a dermoid cyst. Dudley.....	868
uteri, the post-mortem specimens from a case of. Longaker.....	725
Cast, fibrinous, from bladder. Freeman.....	407
Castration in osteomalacia. Fehling.....	1115
Catheter, Bozeman's uterine, recent modifications of. Jaggard.....	1286
uterine, an aseptic two-way. Kelly.....	721
Cellulitis, chronic. Penrose.....	1189
Cervical carcinoma, the operation for. Baumgaertner.....	1112
catarrh treated by electrolysis, cases of chronic. Drage, 891, 978	
laceration, the etiological relation of, to uterine diseases. Wells.....	257
lacerations, the influence of, on the origin of uterine diseases. Noeggerath.....	218
Cervix, adenoma of the, suspicious and malignant. Fuerst.....	782
carcinoma of the. Fenger.....	90
carcinoma of the, uterus removed for. Byford.....	870
dilatation of the; septic peritonitis; death. Lee.....	498
uteri, a subserous fibro-myoma of the, and an ovarian cyst. Byford.....	1205
uteri, columnar epithelioma of the. Hewitt.....	437
uteri during labor, incisions and hemorrhages of the. Skutsch.....	101
Cesarean section, a case of conservative, under the relative indication, with termination in recovery. Jaggard.....	746

	PAGE
Cesarean section, a case of. Eichholz.....	558
section, a case of. Kelly.....	1193
section after Saenger's method, six additional cases of. Zweifel.....	447
section, case of. Etheridge.....	744
section, gastro-elytrotomy and the Porro operation vs. the Saenger method of performing. Zinke.....	673
section necessitated and justified by hypertrophic elongation of the cervix; removal of a living female child of seven pounds weight. Coleman.....	1148
section or craniotomy where the fetus is living. Lebedeff, 445	
section or craniotomy. Wyder.....	221
section, the abuse of. Price.....	1193
section, the new. Lusk.....	1041
section, three successful cases of. Hofmeier.....	445
Champneys. A new operation for the cure of vesico-uterine fistula, 1219	
On primary laparotomy (that is, abdominal section in the latter half of pregnancy, the child being alive) in cases of extra-uterine gestation.....	325
Chorea in a pregnant woman. Hirst.....	417
Chorion, retained, the treatment of. Reihlen.....	111
Chrobak. Contribution to the treatment of carcinoma of the uterus, 443	
Clamp forceps for vaginal hysterectomy. Cleveland.....	709
Clamps for use in vaginal hysterectomy. Polk.....	302
Cleveland. Clamp forceps for vaginal hysterectomy.....	709
Cocaine, accidents following the injection of. Dudley.....	315
Coccyx, the function of the, in the mechanism of labor. Fry.....	1257
Coe. A case of craniotomy presenting unusual difficulty.....	402
Central rupture of the perineum.....	856
Extra-uterine pregnancy, not recognized until after ulceration and perforation of the sac.....	308
Hysterorrhaphy for retroflexion with fixation.....	401
Kelly's rubber bed-pan and perineal crutch.....	615
Late elevation of temperature during the puerperium.....	183
Self-retaining perineal retractor.....	400
Cohn. Amenorrhea in connection with diabetes mellitus and insipidus.....	445
Coleman. Cesarean section necessitated and justified by hypertrophic elongation of the cervix; removal of a living female child of seven pounds weight.....	1148
Division of the funis during forceps delivery.....	693
Colporrhaphy needles, modified Martin. Boldt.....	177
Conception, the prevention of, the physical evils arising from. McArdle.....	934, 975
Conservative section, the, by relative indication. Doederlein.....	445
Constant current, the induction of premature labor by means of the. Bruehl.....	444
current, the, in the therapeutics of gynecology. Shaw, 892, 978	
Contracted pelvis, perforation, the induction of premature labor, and the Cesarean section in case of. Wyder.....	779
Cook. Some observations on lactation.....	687, 741
Cordes. The treatment of endometritis.....	1067
Treatment of puerperal eclampsia.....	1067
Correction.....	896, 1232
Cotton for tampons. Hunter.....	848
packer. Kelly.....	721
Craniotomy or Cesarean section. Wyder.....	221
presenting unusual difficulty, a case of. Coe.....	402
Credé manipulation or expectant method? Ahlfeld.....	1225
Croup. Davis.....	1170
Winter.....	904, 970

	PAGE
Cullingworth. Cyst connected with uterus and simulating enlargement of that organ .....	774
Curette, Pajot's, for removing the remains of a miscarriage. Parvin.....	1307
Cushing. A contribution to the study of pelvic abscess.....	1070
Cyst, calcified. Nilsen.....	513
connected with uterus and simulating enlargement of that organ. Cullingworth.....	774
dermoid. Longaker.....	723
dermoid. Mundé.....	614
dermoid, of the ovary. Boldt.....	710
dermoid. Price.....	1197
intra-ligamentous, case of non-papillary. Baer.....	622
intra-ligamentous, ovarian. Hanks.....	711
multilocular colloid. Hunter.....	62
of broad ligament. Price.....	525
of the broad ligament. Tuttle.....	611
ovarian, a strangulated. Parish.....	732
ovarian, diagnostic aspiration of an. Mundé.....	614
ovarian, double. Lee.....	1174
ovarian, traumatic hemorrhage into an, case of, followed by peritonitis; operation; recovery. Baer.....	528
Cystic abdominal tumors, the opening of, by two operations. Keil, 1110 ovaries and pyo-salpinx. Dudley.....	1275
tumor, peculiar, in axillary space of an infant. Murray.....	316
Cystitis, suppurative exfoliative. Boldt.....	350, 402
Cystoma, multilocular ovarian. Baer.....	1307
multilocular, which had complicated pregnancy and labor. Price.....	419
proliferating ovarian. Tuttle.....	710
Cysts, dermoid, of the ovary. Byford.....	1205
dermoid, two. Goodell.....	627
hydatid, multiple, complicating delivery. Pinard.....	781
intra-ligamentary. Goodell.....	414
of the hymen in the new born. Ziegenspeck.....	781
ovarian and dermoid. Price.....	526
ovarian, intra-ligamentary. Goodell.....	1

## D.

Davis. Croup .....	1170
Dawson, Benjamin F., obituary of.....	492
Dr. Benjamin F., resolutions on the death of.....	719
Death of the fetus in utero, some considerations regarding. Hoag.....	649
Deaver. Extra-uterine pregnancy.....	951
Pus tubes.....	633
Dermoid cyst. Longaker.....	723
cyst. Mundé.....	614
cyst. Price.....	1197
cyst of the ovary. Boldt.....	710
cysts of the ovary. Byford.....	1205
cysts, two. Goodell.....	627
tumors. Price.....	525
Desmoid (fibroid) tumors of the abdominal walls. Ill.....	1093
Diabetes mellitus and insipidus, amenorrhea in connection with. Cohn.....	445
Diagnostic aspiration of an ovarian cyst. Mundé.....	614
Dilatation of the cervix; septic peritonitis; death. Lee.....	498
Diphtheria, a new method of treating. Guelpa.....	772
papoid in the treatment of. Bromwell.....	835, 864

	PAGE
Diseases of the newly born, the treatment of certain of the. Jacobi.	412
Displacements, uterine, some general considerations of the causes of, and their rational treatment by electricity. Smith.	561
Doederlein. An internal relapse of erysipelas, after months of latency, consequent on premature labor.	1111
Researches into the occurrence of germs in the discharges from the uterus and the vagina during the puerperium.	446
The conservative section by relative indication.	446
Dohrn. Has the contracted pelvis an influence on the sex of the fetus?	560
The question of the treatment of the third stage of labor.	992
The question of version followed by immediate extraction.	336
Douglas. A case of hemato-salpinx; laparotomy; recovery.	368
Drage. Cases of chronic cervical catarrh treated by electrolysis.	891, 978
Drainage in abdominal surgery, the indications for. Price.	1069
tubes, self-retaining, for pelvic abscesses opening into the rectum. Byford.	1286
with gauze, treatment of chronic endometritis by. Polk.	1052
Drawers, Kézmárszky's, for the support of the abdomen. Lantos.	1112
Drysdale. Multilocular papillomatous tumor of the broad ligament producing obstruction of the bowel; operation; death from uremia; autopsy disclosing one kidney converted into a cyst and the other diseased.	726
Dudley. A case of vaginal hysterectomy for sarcoma uteri.	424
A new method of operation for restoration of the lacerated perineum.	1233
A year's work in abdominal surgery.	874
Abscess of the ovary.	1274
Accidents following the injection of cocaine.	315
Carcinoma uteri and a dermoid cyst.	868
Chronic pelvic peritonitis.	1275
Double pyo-salpinx.	1275
Laparotomy for removal of the appendages; death from ether (?).	513
Multiple fibroid of the uterus; supra-pubic hysterectomy.	843
Pyo-salpinx and cystic ovaries.	1275
Supra-pubic hysterectomy for fibroid.	1276
The pressure forceps versus the suture and the ligature in vaginal hysterectomy.	1048
Duehrssen. The interchange of matter between mother and fetus.	990
Duke. A new operation for repair of lacerated perineum.	782
Dunster, Edward Swift (Obituary).	603
Dystocia caused by tumors of the fetal arm, forearm, etc., a rare case of. McLean.	391
from diseased arm, rare case of. McLean.	72

## E.

Earle. Annual address, Gynecological Society of Chicago.	192
Eastman. Intraligamentous tubal pregnancy; successful removal by abdominal section of a four-pound living child with all its appendages; mother and child still living.	929
Remarks on pelvic peritonitis, and on my year's work in abdominal surgery (forty cases).	916
Eckart. The condition of the mucosa of the uterus in carcinoma of the cervix.	1114
Eclampsia of pregnancy, a case of, with observations on the state of the renal function. Herman.	437
puerperal. Fenwick.	533
puerperal, treatment of. Cordes.	1067



	PAGE
Ecouvillon, Doléris'. Parvin.....	1307
Ectopic pregnancy, the early diagnosis of, and its treatment, with reports of two cases. Hanks .....	1060
Eichholz. A case of Cesarean section.....	558
Electricity as a substitute for the curette in the treatment of retained secundines after abortion. Fry .....	573
in the treatment of fibroids of the uterus. Werner.....	384
some general considerations of the causes of uterine displacements and their rational treatment by. Smith. ....	561
the treatment of extra-uterine pregnancy by. Brothers. ....	474
treatment of fibroid tumors by. Scott.....	270
Electrolysis and rapid dilatation in the treatment of sterility and dysmenorrhea, the relative merits of. Fry.....	40, 78
cases of chronic cervical catarrh treated by. Drage, 891, 978	
in gynecological practice, note on the use of. Steavenson.....	891, 978
in some chronic uterine affections, with illustrative cases. Gibbons .....	892, 978
its value in diagnosis as well as in treatment of intra-abdominal and intra-pelvic tumors by the aid of a new instrument. Gehrung.....	820
Electro-therapy, the new methods of, in their bearings on gynecological surgery. Engelmann.....	1057
Elevation of temperature, late, during the puerperium. Coe.....	133
Elevator, uterine, a new. Byford.....	421
Emmet. The cause and treatment of urethrocele.....	1035
Endometritis gravidarum, note on the occasional relation of, to the pernicious vomiting of pregnancy. Jaggard.....	466
the treatment of. Cordes.....	1067
treatment of chronic, by drainage with gauze. Polk.....	1052
Endometrium, myxo-fibroma of the. Mundé.....	63
Engelmann. The new methods of electro-therapy in their bearings on gynecological surgery.....	1057
Epilepsy, oöphorectomy for, a case of. Reamy.....	435
Epithelioma, columnar, of the cervix uteri. Hewitt.....	437
Ergot, on the effect of, on the involution of the uterus. Herman and Fowler.....	551
Ergotin, the action of, on involution of the uterus. Blanc.....	448
Erysipelas, an internal relapse of, after months of latency, consequent on premature labor. Doederlein.....	1111
Etheridge. Case of Cesarean section .....	744
Vaginal hysterectomy; report of three cases .....	81
Expectant method or Credé manipulation? Ahlfeld.....	1225
Explorative laparotomy; carcinoma and fibroid. Nilsen.....	1183
Exploratory incision. Montgomery.....	321
External examination, methods of, as employed for diagnosis during pregnancy and labor. McKee.....	770
Extirpation of the uterus, extra-peritoneal. Frank.....	108
of the uterus for primary carcinoma of the body, a case of. Lewers.....	777
Extra-peritoneal hematoma cured by laparotomy, a case of very large suppurating. Seymour.....	927
Extra-uterine gestation arrested by galvanism, case of. Harrison..	314
gestation, on delivery by the vagina in. Herman ..	323
gestation, on primary laparotomy (that is, abdominal section in the latter half of pregnancy, the child being alive) in cases of. Champneys. ....	325
pregnancy, a case of, in which abdominal section was performed during the life of the fetus at the thirty-fifth week of gestation. Williams.....	325
pregnancy, advanced, the management of. Breisky..	559

	PAGE
Extra-uterine pregnancy. Deaver.....	951
pregnancy, clinical report of two cases. Klettsch....	516
pregnancy, fetus at about the third month removed from a case of. Price.....	1196
pregnancy, its diagnosis. Price.....	1099
pregnancy, its pathology. Townsend.....	1096
pregnancy, its treatment. Montgomery.....	1105
pregnancy, not recognized until after ulceration and perforation of the sac. Coe .....	308
pregnancy, note on. Tait.....	394
pregnancy. Parvin.....	1306
pregnancy, primary laparotomy in. Tait.....	494
pregnancy, primary laparotomy in, by Dr. Robert P. Harris; a criticism and reply. Tait.....	289
pregnancy, the operation of primary laparotomy in cases of; an answer to Mr. Tait's criticism and re- ply. Harris.....	299
pregnancy, the therapeutics of. Schwartz.....	993
pregnancy, the treatment of, by electricity. Brothers, ..	474
pregnancy, two cases of; laparotomy; recovery. Pen- rose.....	1184

## F.

Face presentation, cases of. Mackay.....	1162
Fehling. Castration in osteomalacia.....	1115
Laparotomy during tuberculosis of the peritoneum. ....	99
The mechanism of placental separation.....	992
Fenger. Carcinoma of the cervix.....	90
Fibro-cysto-sarcoma of the uterus .....	1200
Fenwick. Puerperal eclampsia. ....	533
Fertility, utero-gestation, parturition, and the puerperium in the so- called "lower" or "laboring" classes, certain facts regarding. Johnston .....	449
Fetus in utero, some considerations regarding death of the. Hoag. ....	649
intra-uterine movements of the, not hitherto described. Ahl- feld .....	1106
nutrition of the, remarks on the. Anderson.....	702
Fever, puerperal malarial, simulating sepsis. Hamill.....	317
puerperal, the causes, internal and external, of. Barnes ..	446
puerperal, the prevention of. Leopold.....	781
typhoid, following ovariectomy. Price.....	941
Fibro-cystic tumor of the uterus. Boldt.....	512
tumor of the womb. Goodell.....	942
Fibro-cysto-sarcoma of the uterus. Fenger.....	1200
Fibroid, death from peritonitis following the removal of a cervical. Hunter.....	607
intra-uterine. Montgomery.....	321
of the uterus, multiple; supra-pubic hysterectomy. Dudley, ..	843
pelvic-bound. Price.....	631
submucous. Hanks .....	615
supra-pubic hysterectomy for. Dudley.....	1276
tumor of the vestibule. Taylor.....	434
tumors of the abdominal wall. Reed .....	1102
tumors of the uterus treated by galvanism, a report of fifteen cases of. Martin.....	643
tumors, treatment of, by electricity. Scott.....	270
uterine, an unusual case of subserous. Hill.....	1092
uterine, case of, treated by Apostoli's method; enucleation of the tumor. Jacobi.....	806
uterine, with double pyo-salpinx. Price .....	525

	PAGE
Fibroid uterus weighing eighteen pounds. Goodell.....	1188
weighing one hundred and forty pounds. Hunter.....	62
Fibroids, hysterectomy for. Mundé.....	303
of the uterus, electricity in the treatment of. Werner..	384
oöphorectomy for. Tuttle.....	710
uterine, comparative therapeutics of. Villa.....	557
uterus removed per vaginam for. Byford.....	743
Fibroma, ovarian. Warder.....	323
removal of a large, from the right transversalis fascia and peritoneum by laparotomy; recovery. Homans.....	156
Fibromata, a contribution to the subject of myomotomy and of castration for. Wehmer.....	335
Fibro-myoma of the cervix uteri, a subserous, and an ovarian cyst. Byford.....	1205
Fibro-myomata of the uterus, multiple subserous. Byford.....	869
Fibro-sarcoma of the uterus and broad ligament. Byford.....	201
Fistula, vesico-uterine, a new operation for the cure of. Champneys,	1219
Flexions and versions, uterine, notes on. Buckmaster.....	397
Forceps, axis-traction, experience with the. Bumm.....	1113
axis-traction. Parvin.....	1307
clamp, for vaginal hysterectomy. Cleveland.....	709
compression. Lusk.....	847
improved obstetric, with paralled handles. Stewart.....	722
is the frequent use of, abusive? Opie.....	1088
needle, counter-pressure. Talbot.....	1272
needle, modification of Sims'. Byford.....	1287
of Prof. Lazarewitch, the new normal. Jaggard.....	200
pedicle, for vaginal oöphorectomy. Byford.....	1287
the pressure, versus the suture and the ligature in vaginal hysterectomy. Dudley.....	1048
Foreign body from the vagina. Grandin.....	1272
Foulis. The cause of head downward presentation and of the first cranial position.....	1231
Fowler and Herman. On the effect of ergot on the involution of the uterus.....	551
Fractures of the bones, intra-uterine, a case of multiple. Link....	444
Frank. A vesical calculus formed around a silk-worm gut suture, inserted into the vesico-vaginal septum.....	1290
Extraperitoneal extirpation of the uterus.....	108
Freeman, Dr. J. N., in memoriam.....	1285
Freeman. Fibrinous cast from bladder.....	407
Maternal impressions.....	516
Note on the use of gelsemin in obstetrics and diseases of children.....	63
Freund. The present state of the question as to the treatment of the third stage of labor.....	219
Fritsch. Myomotomy.....	996
Frommel. The development of the placenta.....	1111
Frozen sections, median. Winter.....	1115
Fruitnight. Mummified fetus and placenta.....	841
Fry. Electricity as a substitute for the curette in the treatment of retained secundines after abortion.....	573
Observations on child-bearing complicated by organic disease of the heart.....	785, 859
The function of the coccyx in the mechanism of labor.....	1257
The relative merits of electrolysis and rapid dilatation in the treatment of sterility and dysmenorrhea.....	40, 78
Fuerst. Suspicious and malignant adenoma of the cervix.....	782
Funis, division of the, during forceps delivery. Coleman.....	693

## G.

Galvanism, fibroid tumors of the uterus treated by, a report of fifteen cases of. Martin.....	643
Galvano-puncture in pelvic tumors, the dangers of. Van de Warker.....	1053
Gastro-elytrotomy and the Porro operation vs. the Saenger method of performing Cesarean section. Zinke.....	673
Gavage, system of. Hirst.....	632
Gehrung. Electrolysis; its value in diagnosis as well as in treatment of intra-abdominal and intra-pelvic tumors by the aid of a new instrument.....	820
Repression of menstruation as a curative agent in gynecology.....	1138
Gelsemin, note on the use of, in obstetrics and diseases of children. Freeman.....	63
Germ in the discharges from the uterus and the vagina during the puerperium, researches into the occurrence of. Doederlein.....	446
Gibbons. Electrolysis in some chronic uterine affections, with illustrative cases.....	892, 978
Gillette. The radical cure of rectocele and cystocele by ligation....	72
Glands of the Fallopian tubes and their function. Sutton.....	775
Salivary, inflammation of the, following labor. Acker.....	923, 955
Glass tubes for silk-worm gut sutures. Nilsen.....	307
Gonorrheal infection, a specimen of oviducts and ovaries diseased by. Goodell.....	1188
Goodell. A case of splenectomy.....	625
A fibroid uterus weighing eighteen pounds.....	1188
A solid ovarian tumor of suspected malignancy.....	1188
A specimen of conjoined twins.....	725
A specimen of hydro-salpinx.....	726
A specimen of oviducts and ovaries, diseased by gonorrheal infection.....	1188
A year's work in oöphorectomy.....	1189
Fibro-cystic tumor of the womb.....	942
Hemato-salpinx.....	942
Intra-ligamentary cysts.....	414
Intra-ligamentary ovarian cysts.....	1
Laparotomy during the year 1887.....	734
Two dermoid cysts.....	627
Graefe. A case of lipoma (subserous) of the labium majus.....	445
Grandin. Foreign body from the vagina.....	1272
Maternal impressions.....	1172
Green. Spontaneous rupture of the uterus.....	1051
Guelpa. A new method of treating diphtheria.....	772
Gunning. Puerperal abscess.....	1277
Gusserow. Peri-uterine hematocele.....	108
Gynecological and obstetrical practice, cases in. Smith.....	694, 737
surgery, the technique of. Sutton.....	599

## H.

Hagner. Puerperal phlegmasia alba dolens.....	589, 637
Hall. Laparotomy for removal of the uterine appendages for the relief of pelvic pain and recurrent attacks of pelvic inflammation.....	1209
Hamill. A fetus showing intra-uterine rachitis.....	630
A four weeks' ovum.....	629
Morning sickness in the husband.....	731
Placental apoplexy.....	731
Puerperal malarial fever simulating sepsis.....	317
Uterus removed from a woman in the last months of pregnancy.....	627

	PAGE
Hanks. An improved Peaslee needle.....	71
Case of pregnancy protracted for ten months; retention of dead fetus for four and a half months.....	76
Intra-ligamentous ovarian cyst ..	711
Needle-holder.....	708
Pregnancy complicated by uterine tumors.....	242, 304
Submucous fibroid.....	615
The early diagnosis of ectopic pregnancy and its treatment, with reports of two cases.....	1060
Trachelorrhaphy scissors.....	58
Hardon. Superinvolution of the uterus following trachelorrhaphy.....	1009
Harris. Reply to Mr. Tait's letter of March 26th, 1888.....	494
The operation of primary laparotomy in cases of extra- uterine pregnancy; an answer to Mr. Tait's criticism and reply.....	299
Harrison. Case of extra-uterine gestation arrested by galvanism....	314
The treatment of catarrhal pneumonia in children.....	310
Harsha. Five successive laparotomies.....	931
Hart. An improved method of managing the third stage of labor, with a criticism of the theory that the placenta is then separated by the uterine pains.....	1227
Head downward presentation, the cause of, and of the first cranial position. Foulis.....	1231
Heart, diseases of the, during pregnancy, some of the difficulties of differentiating functional from organic. Powell.....	1167
from a new-born infant showing a very large and patulous foramen ovale. Hirst.....	527
organic disease of the, child-bearing complicated by, observa- tions on. Fry.....	785, 859
Hematocoele, laparotomy vs. expectant treatment in cases of. Morrill,	1175
peri-uterine. Gusserow.....	108
Hematoma cured by laparotomy, a case of very large suppurating extra-peritoneal. Seymour.....	927
Hematometra, a case of, associated with a degenerating fibro-myoma treated by supra-vaginal hysterectomy. Meredith.....	106
Hemato-salpinx, a case of; laparotomy; recovery. Douglas.....	368
Goodell.....	942
Montgomery.....	322
Hemiplegia occurring nine days after parturition; death; partial post-mortem examination. Scougal.....	776
Hemorrhage, accidental, in labor. Warren.....	1020
into an ovarian cyst, case of traumatic, followed by peritonitis; operation; recovery. Baer.....	528
Herman. A case of Bright's disease during pregnancy. ....	438
A case of eclampsia of pregnancy, with observations on the state of the renal function.....	487
On delivery by the vagina in extra-uterine gestation....	323
Herman and Fowler. On the effect of ergot on the involution of the uterus.....	551
Hernia, congenital, of the abdominal viscera and left lung, lack of development of a portion of the abdominal wall, and complete right lateral curvature of the spine, fetus at term with. Jacobus.....	59
inguinal, investigations in regard to the processus vaginalis peritonei as a predisposing cause of. Sachs.....	442
Hewitt. Columnar epithelioma of the cervix uteri.....	487
Severe vomiting in pregnancy.....	1051
Hill. An unusual case of subserous uterine fibroid.....	1092
Hirst. A double monstrosity.....	632
A parietal bone presenting a spoon-shaped depression .....	722
Adherent placenta and post-partum hemorrhage .....	734

	PAGE
Hirst. An instrument.....	632
Catheterization of the ureters.....	318
Chorea in a pregnant woman.....	417
Heart from a new-born infant showing a very large and patulous foramen ovale.....	527
Hydramnion.....	733
Hydramnion in a multipara with serious mitral regurgitation and aortic stenosis; the quantity of liquor amnii was estimated to be four quarts.....	734
Post-natal pneumonia.....	632
System of gavage.....	632
The incubator.....	631
The placenta from a case of unioval twins.....	721
Hoag. Placenta previa.....	97
Some considerations regarding death of the fetus in utero.....	649
Hofmeier. Placenta previa with twin pregnancy.....	1104
Three successful cases of Cesarean section.....	445
Hoffman. Perityphlitic abscess originating in typhlitis.....	1185
Holmes. A primary myoma of the broad ligament and a table of seventeen collected cases.....	211
Homans. Removal of a large fibroma from the right transversalis fascia and peritoneum by laparotomy; recovery.....	156
Hook, blunt, Delore's flexible. Parvin.....	1307
Hunter. Cotton for tampons.....	848
Death from peritonitis following the removal of a cervical fibroid.....	608
Death from peritonitis following trachelorrhaphy.....	606
Fibroid weighing one hundred and forty pounds.....	32
Multilocular colloid cyst.....	62
Needle-holder.....	177
The influence of pregnancy on pelvic disease.....	1056
Uterus with great hypertrophy of the cervix removed by vaginal hysterectomy.....	177
Vaginal hysterectomy; recovery.....	609
Hydatid cysts, multiple, complicating delivery. Pinard.....	781
Hydramnion. Hirst.....	733
in a multipara with serious mitral regurgitation and aortic stenosis; the quantity of liquor amnii was estimated to be four quarts. Hirst.....	734
Hydrocephalus as a complication of labor. Swayne.....	104
Hydro-salpinx, a specimen of. Goodell.....	726
Byford.....	201
double. Price.....	525
Hymen, cysts of the, in the new-born. Ziegenspeck.....	781
occluded, a case of conception with. Zinnstag.....	1120
Hypertrophic elongation of the cervix, Cesarean section necessitated and justified by; removal of a living female child of seven pounds weight. Coleman.....	1148
Hysterectomies for cancer, recent. Post.....	176
Hysterectomy, clamps for use in vaginal. Polk.....	302
combined abdominal and vaginal, removal of uterine myoma by. Jones.....	604
for fibroids. Mundé.....	303
ovariotomy, and abdominal section on one subject. Baldy.....	945
supra-pubic, for fibroid. Dudley.....	1276
supra-pubic, for multiple fibroid of the uterus. Dud- ley.....	848
vaginal, a case of. Byford.....	427
vaginal, for medullary cancer of the uterus compli-	



	PAGE
cated with extra-uterine myoma, pelvic abscess, and pyo-salpinx; recovery. Reed .....	884
Hysterectomy, vaginal, for procidentia with epithelioma of the cervix uteri and vagina. Taylor .....	1185
vaginal, for sarcoma uteri, a case of. Dudley .....	424
vaginal, ileus following; a contribution to the technique of the operation. Reichel .....	1230
vaginal; recovery. Hunter .....	609
vaginal; report of three cases. Etheridge .....	81
vaginal, see also Uteri	
vaginal, the pressure forceps versus the suture and the ligature in. Dudley .....	1048
vaginal, uterus with great hypertrophy of the cervix removed by. Hunter .....	177
Hystero-epilepsy; laparotomy for removal of the appendages; uremic coma; death. Lee .....	410
Hysterorrhaphy and Alexander's operation. Polk .....	1271
for retroflexion with fixation. Coe .....	401
in the treatment of retroflexions of the womb, the value of. Lee .....	1249
Hystero-trachelorrhaphy; septic peritonitis; death. Lee .....	499

## I.

Icterus infantum from congenital deficiency of the ductus communis choledochus, a case of. White .....	48
Ileum, tumor of the, report of a case of; death from intestinal hemorrhage; extensive complicating lesions. Mercer .....	422
Ileus following vaginal hysterectomy, a contribution to the technique of the operation. Reichel .....	1230
Ill. Desmoid (fibroid) tumors of the abdominal walls. ....	1093
Impressions, maternal. Freeman .....	516
maternal. Grandin .....	1171
Incisions and hemorrhages of the cervix uteri during labor. Skutsch, ..	102
Incubator. Hirst .....	621
Induced premature labor. Stanton .....	1085
Instrument, an. Hirst .....	632
Interchange of matter between mother and fetus. Duehrssen .....	990
Intestinal obstruction. Price .....	630
occlusion after laparatomies. Nieberding .....	1116
Intra-ligamentary cysts. Goodell .....	414
Intra-ligamentous cyst, case of non-papillary. Baer .....	622
Intra-uterine fibroid. Montgomery .....	321
rachitis, a fetus showing. Hamill .....	630
Inversion of the non-parturient uterus and its treatment, with notes of two cases. Lee .....	616
of the uterus. Battlehner .....	1116
Inverted uterus, laparotomy for reduction of an. Mundé .....	1279
Irrigator, Mathieu's, for washing out the uterus. Parvin .....	1307
Ischuria, puerperal, dilatation of the urethra in. Schatz .....	1003
Items .....	112, 224, 448, 783, 1007, 1120, 2112

## J.

Jacobi. Case of uterine fibroid treated by Apostoli's method; enucleation of the tumor .....	806
Notes on uterine versions and flexions .....	225
The treatment of certain of the diseases of the newly born. ....	412
Jacobus. Fetus at term, with congenital hernia of the abdominal viscera and left lung, lack of development of a portion of the	

	PAGE
abdominal wall, and complete right lateral curvature of the spine.....	59
Jaggard. A case of conservative Cesarean section under the relative indication, with termination in recovery.....	746
Note on the occasional relation of endometritis gravidarum to the pernicious vomiting of pregnancy.....	466
Recent modifications of Bozeman's uterine catheter.....	1286
The new normal forceps of Prof. Lazarewitch.....	200
Janvrin. Case of carcinoma of a uterus bilocularis.....	68
On the indications for primary laparotomy in cases of tubal pregnancy.....	1059
The very early removal of the entire breast for "suspected" cancer following injuries, and evidenced chiefly by pain.....	503
Johnson. A case of removal of the uterine appendages for the cure of nymphomania and uterine myoma, death on the ninth day from septic peritonitis caused by the rupture of an abscess.....	939, 974
Johnston. Certain facts regarding fertility, utero-gestation, parturition, and the puerperium in the so-called "lower" or "laboring" classes. Observations made in the Woman's Clinic of the Central Dispensary and Emergency Hospital, Washington, D. C.....	449
Chronic anemia and wasting in newly married women: some of the causes of their persistence and incurability.....	113, 187
Occurrence of the mammary secretion, accompanied by certain rational signs of pregnancy, in two non-pregnant women.....	830
Jones. Dr. Jones' needle-holder.....	394
Puerperal scarlatina.....	540
Removal of the uterine appendages—five cases.....	158
Removal of uterine myoma by combined abdominal and vaginal hysterectomy.....	604

K.

Keil. The opening of cystic abdominal tumors by two operations.....	1110
Kelly. A case of Cesarean section.....	1198
A cotton packer.....	721
A self-retaining speculum.....	945
An aseptic two-way uterine catheter.....	721
Knife-blade tenaculum.....	942
Palpation of the ureters in the female.....	1032
Resuscitation of the asphyxiated new-born child.....	419
Kézmárszky's drawers for the support of the abdomen. Lantos.....	1112
Kiderlen. Malformation of the female genitals.....	1231
Kidney removed in consequence of a perforating bullet wound.	
Price.....	527
wandering, in women. Lindner.....	557
King. The physiological argument in obstetric studies and practice.....	370
Kleinwaechter. Contribution to the subject of blood cysts occurring in the peritoneal cavity.....	444
Ninety cases of one-child sterility.....	110
The enucleation of uterine myomata.....	442
Kletzsch. Clinical report of two cases of extra-uterine pregnancy.....	516
Knox. Three pelvic presentations, with deep laceration of the perineum.....	203
Koetschau. A case of genital tuberculosis (primary tuberculosis of the tubes).....	445
Korn. The prevention of ophthalmia neonatorum.....	559

## L.

- Labor, a report of five hundred consecutive cases of, in private practice, in the District of Columbia, between the years 1864 and 1888. Prentiss..... 956
- induced premature. Stanton.....1085
- premature, the induction of. Strauch..... 447
- the mechanism of, in head presentations. Olshausen.....1109
- the mechanism of, in vertex presentations, contributions to. Sutugin.....1119
- the mechanism of, the function of the coccyx in. Fry .. .1257
- the third stage of, the present state of the question as to the treatment of. Freund..... 219
- third stage of, the question of the treatment of the. Dohrn. 992
- third stage of. See also Third
- Lacerated perineum, a new method of operation for restoration of the. Dudley.....1233
- perineum, a new operation for repair of. Duke..... 782
- Laceration, cervical, the etiological relation of, to uterine disease. Wells..... 257
- of the perineum in a child seven years old. Thompson, 974
- Lacerations, cervical, the influence of, on the origin of uterine diseases. Noeggerath..... 218
- of the perineum and the pelvic floor, the surgical treatment for. Wathen.....1080
- Lactation, some observations on. Cook.....687, 741
- Landau. Ulcerations of the female urethra..... 110
- Lange. Concerning a certain kind of retention of the placenta.....1230
- Lantos. Kézmárszky's drawers for the support of the abdomen.....1112
- Laparo-hysterectomy. Byrne..... 178
- Laparatomies, five successive. Harsha..... 931
- Laparotomy, a year's work in. (Forty-five operations.) Mundé, 15, 136
- during the year 1887. Goodell..... 734
- for reduction of an inverted uterus. Mundé..... 1279
- in peritonitis. Montgomery.....1076
- injury to the bladder during. Saenger .. .1006
- on primary (that is, abdominal section in the latter half of pregnancy, the child being alive) in cases of extra-uterine gestation. Champneys..... 325
- primary, in cases of tubal pregnancy, on the indications for. Janvrin.....1059
- primary, in extra-uterine pregnancy by Dr. Robert P. Harris; a criticism and reply. Tait..... 289
- primary, the operation of, in cases of extra-uterine pregnancy; an answer to Mr. Tait's criticism and reply. Harris..... 299
- Lazarewitch, Prof., the new normal forceps of. Jaggard..... 200
- Lebedeff. Cesarean section or craniotomy where the fetus is living? 445
- Lee. Amputation of the cervix for carcinoma; consecutive miscarriage..... 400
- Dilatation of the cervix; septic peritonitis; death..... 498
- Double ovarian cyst.....1174
- Hystero-epilepsy; laparotomy for removal of the appendages: uremic coma; death..... 410
- Hystero-trachelorrhaphy; septic peritonitis; death..... 499
- Inversion of the non-parturient uterus and its treatment, with notes of two cases..... 616
- The value of hysterorrhaphy in the treatment of retroflexions of the womb.....1249
- Leopold. The cure of retroflexion by stitching the fundus uteri to the abdominal wall.....1118

	PAGE
Leopold. The prevention of puerperal fever.....	781
The treatment of rupture of the uterus.....	1106
Lewers. A case of extirpation of the uterus for primary carcinoma of the body.....	777
A note on the post-mortem appearances of a phlegmon of the broad ligament.....	546
Ligation, the radical cure of rectocele and cystocele by. Gillette...	72
Lindner. Wandering kidney in women.....	557
Link. A case of multiple intra-uterine fractures of the bones.....	444
Lipoma (subserous) of the labium majus, a case of. Graefe.....	445
Liquor amnii, does it contribute to the nutrition of the ovum? Ahl- feld.....	98
Long. A new stitch.....	133
Longaker. Dermoid cyst.....	723
The post-mortem specimens from a case of carcinoma uteri.....	725
Lusk. The new Cesarean section.....	1041
Compression forceps.....	847

## M.

Mackay. Cases of face presentation.....	11
MacKenzie. Report of cases of chronic pelvic abscess opening into the rectum.....	713
Mackinnon. Complicated placenta previa.....	707
Malformation of the female genitals. Kiderlen.....	1231
Mammary secretion, occurrence of the, accompanied by certain rational signs of pregnancy, in two non-pregnant women. Johnston.....	830
Mann. Ovarian fetation.....	1059
Marcy. The perineum, its anatomy, physiology, and its restoration after injury.....	1082
Martin. A report of fifteen cases of fibroid tumors of the uterus treated by galvanism.....	643
Myomata.....	995
Martin's method of operating in high-seated abscesses involving the ovaries, tubes, and intestine. Bigelow.....	485
Maternal impressions. Freeman.....	516
impressions. Grandin.....	1172
McArdle. The physical evils arising from the prevention of concep- tion.....	934, 975
McKee. Methods of external examination as employed for diagnosis during pregnancy and labor.....	770
McLean. A rare case of dystocia caused by tumors of the fetal arm, forearm, etc. ....	391
Placenta retained for nine weeks after miscarriage at three and a half months.....	60
Rare case of dystocia from diseased arm.....	72
Rupture of the uterus at first confinement; subsequent pregnancy, and delivery by version.....	401
Some remarks on the duties of the modern obstetrician...	848
McMurray. A case of congenital absence of the vagina with reten- tion of menstrual fluid.....	239
Measles, notes on. Tyler.....	815, 860
Mechanism of labor, the, in head presentations. Olshausen.....	1109
Membranes, retention of, the cause of the. Schrader.....	219
Menstruation, regular, after Tait's operation. Tuttle.....	612
repression of, as a curative agent in gynecology. Gehring.....	1138
Mercer. Report of a case of tumor of the ileum; death from intes- tinal hemorrhage; extensive complicating lesions.....	422



	PAGE
Needles, colporrhaphy, modified Martin. Boldt.....	177
Nelson. Sarcoma of the ovary with half-twisted pedicle, removed by autopsy.....	1197
Newman. Alexander's operation, with report of cases....	1291
Nieberding. Intestinal occlusion after laparatomies.....	1116
Nilsen. Calcified cyst.....	513
Explorative laparotomy; carcinoma and fibroid.....	1183
Glass tubes for silk-worm gut sutures.....	307
Noeggerath. The influence of cervical lacerations on the origin of uterine diseases .....	218
Nordmann. Statistics and treatment of placenta previa.....	780
Nutrition of the fetus, remarks on the. Anderson .....	702
Nymphomania and uterine myoma, a case of removal of the uterine appendages for the cure of, death on the ninth day from septic peritonitis caused by the rupture of an abscess. Johnson....	939, 974

## O.

Obermann. A contribution to the treatment of placenta previa....	78 <sup>0</sup>
Obituary. Benjamin F. Dawson.....	49 <sup>2</sup>
Edward Swift Dunster.....	603
Obstetric studies and practice, the physiological argument in. King,	370
Obstetrician, duties of the modern, some remarks on the. McLean,	848
Obstetrics, the so-called physiological argument in. Byford.....	897
Obstruction, intestinal. Price .....	630
Occipito-posterior, almost brow presentation; labor at term; head ex- tended; flexion by means of the hand; delivery by forceps. Mundé .....	75
Occluded hymen, a case of conception with. Zinnstag.....	1120
Occlusion, intestinal, after laparatomies. Nieberding .....	1116
Olshausen. Abdominal fixation of the retroflexed uterus.....	994
The mechanism of labor in head presentations.....	1109
One-child sterility, ninety cases of. Kleinwaechter .....	110
Oöphorectomy, a year's work in. Goodell.....	1189
for epilepsy, a case of. Reamy.....	435
for fibroids. Tuttle .....	759
Ophthalmia neonatorum, the prevention of. Korn.....	510
Opie. Is the frequent use of forceps abusive?.....	1088
Osteomalacia, castration in. Fehling .....	1115
Ovarian abscess, a case of so-called; small suppurating ovarian cyst, Baer.....	530
abscess. Boldt .....	511
abscess. Price .....	526
and dermoid cysts. Price .....	526
cyst, a strangulated. Parish.....	732
cyst, a subserous fibro-myoma of the cervix uteri and an. Byford .....	1205
cyst, diagnostic aspiration of an. Mundé.....	614
cyst, double. Lee.....	1174
cyst, intra-ligamentous. Hanks.....	711
cyst, traumatic hemorrhage into an, case of, followed by peritonitis; operation, recovery. Baer.....	528
cystoma, multilocular. Baer.....	1307
cystoma, proliferating. Tuttle.....	710
cysts, intra-ligamentary. Goodell .....	1
fetation. Mann.....	1059
fibroma. Warder.....	323
tumor, a solid, of suspected malignancy. Goodell....	1188
tumors, report of first fifty operations for. Parkes.....	759
Ovaries, contribution to the anatomy of healthy and diseased. Nagel,	558
cystic, and pyo-salpinx. Dudley.....	1275



	PAGE
Ovariectomy, double, during pregnancy; subsequent delivery at term.	
Potter.....	1028, 1084
hysterectomy, and abdominal section on one subject.	
Baldy.....	945
second, on the same patient. Wells ..	1039
two cases of; recovery. Wenning ..	544
Ovary, abscess of the. Dudley.....	1274
dermoid cysts of the. Byford.....	1205
prolapsus of the. Reamy ..	434
sarcoma of the. Byford.....	1289
sarcoma of the, with half-twisted pedicle, removed by au-	
topsy. Nelson.....	1197
Oviducts and ovaries, diseased by gonorrheal infection, a specimen	
of. Goodell.....	1188
Ovum, a four weeks'. Hamill.....	629

## P.

Palpation of the ureters in the female. Kelly.....	1032
Papilloma of the broad ligament infiltrated with tuberculous foci.	
Byford.....	1287
Papillomatous tumor of the broad ligament, multilocular, producing	
obstruction of the bowel; operation; death from uremia;	
autopsy disclosing one kidney converted into a cyst and the	
other diseased. Drysdale ..	726
Papoid in the treatment of diphtheria. Bromwell.....	835, 864
Parietal bone presenting a spoon-shaped depression. Hirst.....	722
Parish. A strangulated ovarian cyst ..	732
Parkes. Report of first fifty operations for ovarian tumors.....	759
Parvin. Axis-traction forceps ..	1307
Delore's flexible blunt hook.....	1307
Dolérès' ecouvillon ..	1307
Extra-uterine pregnancy.....	1306
Mathieu's instrument for washing out the uterus.....	1307
Pajot's curette for removing the remains of a miscarriage.....	1307
Peaslee needle, an improved. Hanks.....	71
Pedicle in myomectomy, treatment of the. Zweifel.....	995
Pedicle-forceps for vaginal oöphorectomy. Byford ..	1287
Pelvic abscess, chronic, opening into the rectum, report of cases of.	
MacKenzie ..	713
abscess, a contribution to the study of. Cushing.....	1070
abscess, the treatment of. Sutton.....	1037
pain and recurrent attacks of pelvic inflammation, lapara-	
tomy for removal of the uterine appendages for the re-	
lief of. Hall.....	1209
peritonitis, chronic. Dudley.....	1275
presentations, three, with deep laceration of the perineum.	
Knox ..	203
Pelvis, contracted, has it an influence on the sex of the fetus?	
Dohrn.....	560
Penrose. Chronic cellulitis.....	1189
Two cases of extra-uterine pregnancy, laparotomy, re-	
covery.....	1184
Perforation, the induction of premature labor, and the Cesarean sec-	
tion in case of contracted pelvis. Wyder.....	779
Perineal retractor, self-retaining. Coe.....	400
Perineoplasty. Zweifel ..	1005
Perineorrhaphy by separation of the recto-vaginal septum and the	
formation of a flap. Saenger.....	778
Tait's flap. Saenger.....	994

	PAGE
Perineum, lacerated, a new method of operation for restoration of the. Dudley.....	1233
lacerated, a new operation for repair of. Duke.....	782
lacerations of the, and the pelvic floor, the surgical treatment for. Wathen.....	1080
laceration of the, in a child seven years old. Thompson.....	974
rupture of the, central. Coe.....	856
the development of the, and its influence on the occurrence of certain malformations. Reichel.....	560
the, its anatomy, physiology, and its restoration after injury. Marcy.....	1082
Peritoneal adhesions in case of retroflexed uterus and prolapsed ovaries, the diagnosis and loosening of. Schultze.....	111
cavity, blood cysts occurring in the, contribution to the subject of. Kleinwaechter.....	444
Peritoneum, relaxation of the. Wiedow.....	1114
tuberculosis of the, laparotomy during. Fehling.....	99
Peritonitis following the removal of a cervical fibroid, death from. Hunter.....	607
following trachelorrhaphy, death from. Hunter.....	606
laparotomy in. Montgomery.....	1076
pelvic, chronic. Dudley.....	1275
pelvic, remarks on, and on my year's work in abdominal surgery (forty cases). Eastman.....	916
septic, laparotomy for. Boldt.....	408
suppurative, treatment of. Meyers.....	1074
tubercular, the surgical treatment of. The indications and contra-indications. Secheyron.....	447
Perityphlitic abscess originating in typhlitis. Hoffman.....	1185
Pessaries. Schultze.....	1105
Phillips. On the value of pilocarpine in pregnancy, labor, and the lying-in state.....	1221
Phlegmasia alba dolens, puerperal. Hagner.....	589, 637
Phlegmon of the broad ligament, a note on the post-mortem appearances of a. Lewers.....	546
Physiological argument in obstetrics, the so-called. Byford.....	897
argument, the, in obstetric studies and practice. King.....	370
Pilocarpine in pregnancy, labor, and the lying-in state, on the value of. Phillips.....	1221
Pinard. Multiple hydatid cysts complicating delivery.....	781
Placenta, adherent, and post-partum hemorrhage. Hirst.....	734
disease of the, and albuminuria, the connection between. Wiedow.....	223
from a case of unioval twins. Hirst.....	721
previa, a contribution to the treatment of. Obermann.....	780
previa. Ahlfeld.....	1104
previa, complicated. Mackinnon.....	707
previa. Hoag.....	97
previa, statistics and treatment of. Nordmann.....	780
previa with twin pregnancy. Hofmeier.....	1104
retained for nine weeks after miscarriage at three and a half months. McLean.....	60
retention of the, concerning a certain kind of. Lange.....	1230
retention of the, in whole or in part, the cause of the. Schrader.....	220
the development of the. Frommel.....	1111
with two cords, a fused. Schultze.....	1107
Placental apoplexy. Hamill.....	731
separation, the mechanism of. Fehling.....	992
Pneumonia, catarrhal, in children, the treatment of. Harrison.....	310
post-natal. Hirst.....	632

	PAGE
Polk. Clamps for use in vaginal hysterectomy.....	302
Death from acute salpingitis, peritonitis, and endometritis, due to the use of the sound ..	847
Hysterorrhaphy and Alexander's operation ..	1271
Treatment of chronic endometritis by drainage with gauze..	1052
Post. Recent hysterectomies for cancer.....	176
Pott. The etiology of vulvo-vaginitis in childhood.....	1109
Potter. Double ovariectomy during pregnancy; subsequent delivery at term.....	1028, 1084
Powell. Some of the difficulties of differentiating functional from organic diseases of the heart during pregnancy.....	1167
Pregnancy complicated by uterine tumors. Hanks.....	242, 304
double ovariectomy during; subsequent delivery at term.....	1028, 1084
Potter.....	1028, 1084
protracted for ten months, case of; retention of dead fe- tus for four and a half months. Hanks.....	76
severe vomiting in. Hewitt.....	1051
the changes in the blood during. Meyer.....	336
the influence of, on pelvic disease. Hunter.....	1056
triple, diagnostic signs of. Vilderman.....	1229
Premature labor, the induction of, by means of the constant current. Bruehl.....	444
labor, the induction of. Strauch.....	447
Prentiss. A report of five hundred consecutive cases of labor in pri- vate practice, in the District of Columbia, between the years 1864 and 1888.....	956
Presentation, head downward, the cause of, and of the first cranial position. Foulis.....	1231
Presentations, pelvic, three, with deep laceration of the perineum. Knox.....	203
Prevention of conception, the physical evils arising from the. Mc- Ardle.....	934, 975
Price. Abdominal surgery.....	1303
Cyst of broad ligament.....	525
Dermoid cyst.....	1197
Dermoid tumors.....	525
Double hydro-salpinx.....	525
Extra-uterine pregnancy, its diagnosis.....	1099
Fetus, at about the third month, removed from a case of extra-uterine pregnancy.....	1196
Intestinal obstruction.....	630
Kidney removed in consequence of a perforating bullet wound.....	527
Multilocular cystoma which had complicated pregnancy and labor.....	419
Ovarian abscess.....	526
Ovarian and dermoid cysts.....	526
Pelvic-bound fibroid.....	631
Ruptured tubal pregnancy.....	524
The abuse of Cesarean section.....	1193
The indications for drainage in abdominal surgery.....	1069
Typhoid fever following ovariectomy.....	941
Uterine fibroid with double pyo-salpinx.....	525
Processus vaginalis peritonei as a predisposing cause of inguinal hernia, investigations in regard to the. Sachs.....	442
Prolapse of the uterus in a virgin, forcible and complete. Mundé.	70
Prolapsus of the ovary. Reamy.....	434
Psychoses following operations upon the female genital apparatus. the origin of. Werth.....	993
Puerperal abscess. Gunning.....	1277
eclampsia. Fenwick.....	533

	PAGE
Puerperal eclampsia, treatment of. Cordes .....	1067
fever, the causes, internal and external, of. Barnes.....	446
fever, the prevention of. Leopold.....	781
malarial fever simulating sepsis. Hamill.....	317
phlegmasia alba dolens. Hagner .....	589, 637
scarlatina. Jones.....	540
septicemia, the general treatment of. Runge.....	109
Puerperium, late elevation of temperature during. Coe.....	183
Pus tubes. Deaver.....	633
Pyo-salpinx and cystic ovaries. Dudley.....	1275
double. Dudley.....	1275
double, uterine fibroid with. Price.....	525
see also Pus tubes	

R.

Rachitis, intra-uterine, a fetus showing. Hamill.....	630
Raudnitz. The indications of variation in infancy.....	1117
Reamy. A case of oöphorectomy for epilepsy.....	435
High amputation of the uterus for cancer .....	1045
Large vesical calculus in a young girl—operation.....	1206
Prolapsus of the ovary ....	434
Rectocele and cystocele, the radical cure of, by ligation. Gillette...	72
Reed. Fibroid tumors of the abdominal wall.....	1102
Vaginal hysterectomy for medullary cancer of the uterus complicated with extra-uterine myoma, pelvic abscess, and pyo-salpinx; recovery. ....	884
Reichel. Ileus following vaginal hysterectomy, a contribution to the technique of the operation....	1230
The development of the perineum and its influence on the occurrence of certain malformations.....	560
Reihlen. The treatment of retained chorion.....	111
Relaxation of the peritoneum. Wiedow.....	1114
Reply to Mr. Tait's letter of March 26th, 1888. Harris.....	494
Resuscitation of the asphyxiated new-born child. Kelly.....	419
Retained chorion, the treatment of. Reihlen.....	111
secundines after abortion, electricity as a substitute for the curette in the treatment of. Fry.....	573
Retention of membranes, the cause of the. Schrader....	219
of the placenta, concerning a certain kind of. Lange....	1230
of the placenta in whole or in part, the cause of the. Schrader.....	220
Retractor, perineal, self-retaining. Coe.....	400
Retroflexed uterus, abdominal fixation of the. Olshausen.....	994
uterus, abdominal fixation of the. Saenger.....	994
Retroflexion of the uterus, the therapeutics of. Skutsch.....	997
the cure of, by stitching the fundus uteri to the abdo- minal wall. Leopold .....	1118
with fixation, hysterorrhaphy for. Coe.....	401
Retroflexions of the womb, the value of hysterorrhaphy in the treatment of. Lee.....	1249
Retroversio-flexio uteri, the operative treatment of. Saenger.....	558
Reviews. Acconci. Contribuzione allo Studio sull' Azione Compres- siva del Forcipe. Ricerche sperimentali a cliniche.— Contributions to the study of the compressive Action of the Forceps. Experimental and Clinical Re- searches .....	556
Bulletins et mémoires de la Société Obstétricale et Gyné- cologique de Paris.—Transactions of the Paris Obstet- rical and Gynecological Society. ....	669

	PAGE
Reviews. Byford. The Practice of Medicine and Surgery applied to the diseases and accidents incident to women.....	331
Charpentier, Chrobak, et al. Cyclopedia of Obstetrics and Gynecology. Translated under the supervision of, and with notes and additions by Egbert H. Grandin,.....	329
Doran. Handbook of Gynecological Operations.....	224
Dufestel. Des Maladies simulées chez les Enfants.—Simulated Disease in Children.....	1223
Hadra. Lesions of the vagina and pelvic floor, with special reference to uterine and vaginal prolapse.....	894
Homans. Three hundred and eighty-four laparatomies for various diseases.....	334
Jeançon. Diseases of the Sexual Organs, Male and Female.....	107
Leopold. Der Kaiserschnitt und seine Stellung zur kuenstlichen Fruehgeburt, Wendung und Perforation bei engem Becken.—The Cesarean section and its relation to the induction of premature labor, version, and perforation in case of the contracted pelvis.....	770
Morrow. Atlas of Venereal and Skin Diseases, etc.....	333
Preistley. The Pathology of Intra-uterine Death.....	441
Prochownick. Beitræge zur Anthropologie des Beckens.—Contribution to the Anthropology of the Pelvis....	557
Prochownick. Messungen an Suedseeskeletten mit besonderer Beruecksichtigung des Beckens —Measurements on South Sea Skeletons with Special Reference to the Pelvis.....	557
Taylor. Lupus of the Cervix and female Genitalia.....	669
Transactions of the American Gynecological Society, Vol. XII.....	334
Transactions of the Edinburgh Obstetrical Society, Vol. XII.....	335
Varnier. Du détroit inférieur musculaire du bassin obstétrical.....	895
Waxham. Intubation of the Larynx.....	894
Willard. Formulaire clinique et therapeutique pour les Maladies des Enfants.—Clinical and Therapeutical Formulary for Diseases of Children.....	1224
Rohé. Diseases of the skin associated with sexual disorders in the female.....	1094
Round ligaments, the value of Alexander's operation for shortening the. Estimated from the results of twenty-three cases. Mundé,.....	1121
Ruge. Adenoma of the uterus; its benign and malignant forms.....	1105
Runge. The general treatment of puerperal septicemia.....	109
Rupture of the perineum, central. Coe.....	856
of the uterus at first confinement; subsequent pregnancy, and delivery by version. McLean.....	401
of the uterus, spontaneous. Green.....	1051
of the uterus, the treatment of. Leopold.....	1106
S.	
Sachs. Investigations in regard to the processus vaginalis peritonei as a predisposing cause of inguinal hernia.....	442
Saenger. Abdominal fixation of the retroflexed uterus.....	994
Injury to the bladder during laparotomy.....	1006
Perineorrhaphy by separation of the recto-vaginal septum and the formation of a flap.....	778
Tait's flap perineorrhaphy.....	994
The operative treatment of retroversio-flexio uteri.....	558

	PAGE
Salivary glands, inflammation of the, following labor. Acker..	923, 955
Salpingitis, acute, peritonitis, and endometritis, due to the use of the sound, death from. Polk .....	847
interstitial. Boldt .....	122
see also Tubal trouble	
Sarcoma, alveolar, of the uterus, two cases of. Byford..	1289
enormous, implicating both ovaries and one tube in a young girl. Wenning .....	1214
fibro-cysto-, of the uterus. Fenger..	1200
of the ovary. Byford..	1289
of the ovary with half-twisted pedicle, removed by au- topsy. Nelson.....	1197
of the vagina in childhood. Schuchardt.....	1108
uteri, a case of vaginal hysterectomy for. Dudley .....	424
Scarlatina during pregnancy and in the puerperal state. Boxall..	547,
553, 666	
puerperal. Jones.....	540
Schatz. A urethral calculus of unusual size .....	1000
Dilatation of the urethra in puerperal ischuria.....	1001
Snaring the arm in utero during version and extraction in contracted pelvis.....	1004
The extract of viburnum prunifolium in the pains of preg- nancy.....	1002
Schiedt. The treatment of the after-coming head .....	282, 319
Schrader. The cause of the retention of membranes.....	219
The cause of retention of the placenta in whole or in part.....	220
Schroeder, Prof. Carl, the subscription for a bust of. Veit.....	841
Schuchardt. Sarcoma of the vagina in childhood.....	1108
Schultze. A fused placenta with two cords .....	1107
Full-term tubo-uterine pregnancy .....	1108
Pessaries.....	1105
The diagnosis and loosening of peritoneal adhesions in case of retroflexed uterus and prolapsed ovaries.....	111
Unequal development of twins.....	1108
Schwartz. The therapeutics of extra-uterine pregnancy.....	993
Scissors, trachelorrhaphy. Boldt .....	399
trachelorrhaphy. Hanks.....	58
Scott. Treatment of fibroid tumors by electricity.....	270
Scougal. Hemiplegia occurring nine days after parturition; death; partial post-mortem examination.....	776
Secheyron. The surgical treatment of tubercular peritonitis; the indications and contra-indications .....	447
Sections, frozen, median. Winter.....	1115
Septic peritonitis, laparotomy for. Boldt .....	408
Septicemia, puerperal, the general treatment of. Runge.....	109
Sex of the fetus, has the contracted pelvis an influence on the? Dohrn.....	560
Seymour. A case of very large suppurating extra-peritoneal hema- toma cured by laparotomy.....	927
Shaw. The constant current in the therapeutics of gynecology, 892,	978
Sims. The importance of the microscope in the treatment of ster- ility in women .....	1055
Vesical calculus with a cotton nucleus .....	843
Skin, diseases of the, associated with sexual disorders in the female. Rohé.....	1094
Skutsch. Incisions and hemorrhages of the cervix uteri during labor .....	101
The therapeutics of retroflexion of the uterus.....	997
Smith. Cases in gynecological and obstetrical practice .....	694, 737



	PAGE
Smith. Some general considerations of the causes of uterine displacements and their rational treatment by electricity..	561
Sonnenberger. The pathogeny and therapy of whooping cough....	442
Sound, death from acute salpingitis, peritonitis, and endometritis, due to the use of the. Polk.....	847
Spear. A suture apparatus for trachelorrhaphy.....	495
Speculum, a self-retaining. Kelly.....	945
Splenectomy, a case of. Goodell.....	625
Stanton. Induced premature labor.....	1085
Steavenson. Note on the use of electrolysis in gynecological practice.....	891, 978
Sterility and dysmenorrhea, the relative merits of electrolysis and rapid dilatation in the treatment of. Fry.....	40, 78
in women, the importance of the microscope in the treatment of. Sims.....	1055
Stewart. Improved obstetric forceps with parallel handles.....	732
Stitch, a new. Long.....	133
Strangulation, intestinal, after Tait's operation. Tuttle.....	611
Strauch. The induction of premature labor.....	447
Superinvolution of the uterus following trachelorrhaphy. Hardon.....	1009
Suppurative peritonitis, treatment of. Meyers.....	1074
Surgeon, the relation of the abdominal, to the obstetrician and gynecologist. Vander Veer.....	1078
Surgery, gynecological, the technique of. Sutton.....	599
Sutton. The glands of the Fallopian tubes and their function....	775
The technique of gynecological surgery.....	599
The treatment of pelvic abscess.....	1037
Sutugin. Contributions to the mechanism of labor in vertex presentations.....	1119
Suture apparatus, a, for trachelorrhaphy. Spear.....	495
Sutures, silk-worm gut, glass tubes for. Nilsen.....	307
Swayne. Hydrocephalus as a complication of labor.....	104
Swift. Bronchitis in children.....	54

## T.

Tait. Note on extra-uterine pregnancy.....	394
Primary laparotomy in extra-uterine pregnancy.....	494
Primary laparotomy in extra-uterine pregnancy, by Dr. Robert P. Harris: a criticism and reply.....	289
Tait's flap perineorrhaphy. Saenger.....	994
operation, intestinal strangulation after. Tuttle.....	611
operation, regular menstruation after. Tuttle.....	612
operation, specimen from. Byford.....	1206
operation. Tuttle.....	709
Talbot. Counter-pressure needle forceps.....	1272
Tampon, vaginal, encrusted with a complete shell of lime salts, removal of, twenty-nine years after its insertion. Beckwith.....	13
Tampons, cotton for. Hunter.....	848
Taylor. Annual address, Amer. Ass'n of Obstetricians and Gynecologists.....	1064
Fibroid tumor of the vestibule.....	434
Vaginal hysterectomy for procidentia with epithelioma of the cervix uteri and vagina.....	1185
Tenaculum, knife-blade. Kelly.....	942
Third stage of labor, an improved method of managing the, with a criticism of the theory that the placenta is then separated by the uterine pains. Hart.....	1227
stage of labor, the present state of the question as to the treatment of the. Freund.....	210
stage of labor, the question of the treatment of the. Dohrn....	992

	PAGE
Thomas. The etiology, pathology, and treatment of antelexion of the uterus.....	1043
Thompson. Laceration of the perineum in a child seven years old..	974
Uterine cancer.....	582, 635
Townsend. Extra-uterine pregnancy, its pathology.....	1096
Trachelorrhaphy, a suture apparatus for. Spear.....	495
death from peritonitis following. Hunter.....	606
scissors. Hanks.....	58
scissors. Boldt.....	399
superinvolution of the uterus following. Hardon.....	1009
Triple pregnancy, diagnostic signs of. Vilderman.....	1229
Tubal pregnancy, intraligamentous; successful removal by abdominal section of a four-pound living child with all its appendages; mother and child still living. Eastman.....	929
pregnancy, on the indications for primary laparotomy in cases of. Janvrin.....	1059
pregnancy, ruptured. Price.....	524
pregnancy. Tuttle .....	611
trouble, inflammatory, specimens of. Baer.....	632
Tubercular peritonitis, the surgical treatment of; the indications and contra-indications. Secheyron.....	447
Tuberculosis, genital, a case of (primary tuberculosis of the tubes). Koetschau .....	445
of the peritoneum, laparotomy during. Fehling.....	99
Tubes, Fallopian, the glands of the, and their function. Sutton.....	775
Tubo-uterine pregnancy, full-term. Schultze.....	1108
Tuttle. Cyst of the broad ligament .....	611
Intestinal strangulation after Tait's operation.....	611
Oöphorectomy for fibroids.....	710
Proliferating ovarian cystoma .....	710
Regular menstruation after Tait's operation. ....	612
Tait's operation ..	709
Tubal pregnancy .....	611
Twin pregnancy—abortion at two different periods of gestation—causes: vomiting in the one, placenta previa in the other. Zinke, ..	657
Twins, conjoined, a specimen of. Goodell.....	725
unequal development of. Schultze.....	1108
Tyler. Notes on measles.....	815, 860
Typhoid fever following ovariectomy. Price ..	941

U

Ulcerations of the female urethra. Landau .....	110
Ureters, catheterization of the. Hirst.....	318
palpation of the, in the female. Kelly.....	1032
Urethra, dilatation of the, in puerperal ischuria. Schatz.....	1001
ulcerations of the female. Landau.....	110
Urethral calculus of unusual size. Schatz.....	1000
Urethrocele, the cause and treatment of. Emmet.....	1035
Uteri, two, removed per vaginam for fibro-sarcoma and carcinoma respectively. Byford.....	642
Uterine appendages, a case of removal of the, for the cure of nymphomania and uterine myoma, death on the ninth day from septic peritonitis caused by the rupture of an abscess. Johnson.....	939, 974
appendages, laparotomy for removal of the, for the relief of pelvic pain and recurrent attacks of pelvic inflammation. Hall .....	1209
appendages removed from two cases by vaginal section. Byford.....	872

## Uterine appendages, see also Appendages

cancer. Thompson.....	582, 635
catheter, an aseptic two-way. Kelly.....	721
displacements and their rational treatment by electricity, some general considerations of the causes of. Smith.....	561
elevator, a new. Byford.....	421
fibroid, an unusual case of subserous. Hill.....	1092
fibroid, case of, treated by Apostoli's method; enucleation of the tumor. Jacobi.....	806
fibroid with double pyo-salpinx. Price.....	525
fibroids, comparative therapeutics of. Villa.....	557
flexions and versions, notes on. Buckmaster.....	397
myoma, removal of, by combined abdominal and vaginal hysterectomy. Jones.....	604

myomata, the enucleation of. Kleinwaechter.....	442
tumors, pregnancy complicated by. Hanks.....	242, 304
versions and flexions, notes on. Jacobi.....	225

Uterus, a fibroid, weighing eighteen pounds. Goodell.....	1188
adenoma of the, its benign and malignant forms. Ruge.....	1105
alveolar sarcoma of the, two cases of. Byford.....	1289
and broad ligament, fibro-sarcoma of the. Byford.....	201
anteflexion of the, the etiology, pathology, and treatment of. Thomas.....	1043
bilocularis, carcinoma of, a case of. Janvrin.....	68
carcinoma of, and a dermoid cyst. Dudley.....	868
carcinoma of the, contribution to the treatment of. Chro- bak.....	443
extirpation of the, for primary carcinoma of the body, a case of. Lewers.....	777
extraperitoneal extirpation of the. Frank.....	108
fibro-cystic tumor of the. Boldt.....	512
fibro-cystic tumor of the. Goodell.....	942
fibro-cysto-sarcoma of the. Fenger.....	1200
fibroids of the, electricity in the treatment of. Werner.....	384
fibro-myomata of the, multiple subserous. Byford.....	869
high amputation of the, for cancer. Reamy.....	1045
inversion of the. Battlehner.....	1116
inversion of the non-parturient, and its treatment, with notes of two cases. Lee.....	616
inverted, laparotomy for reduction of an. Mundé.....	1279
medullary cancer of the, complicated with extra-uterine myoma, pelvic abscess, and pyo-salpinx, vaginal hyster- ectomy for; recovery. Reed.....	884
multiple fibroid of the; supra-pubic hysterectomy. Dudley.....	843
prolapse of the, in a virgin, forcible and complete. Mundé.....	70
removed for carcinoma of the cervix. Byford.....	870
removed from a woman in the last months of pregnancy. Hamill.....	627
removed per vaginam for fibroids. Byford.....	743
retroflexed, abdominal fixation of the. Olshausen.....	994
retroflexed, abdominal fixation of the. Saenger.....	994
retroflexion of the, the therapeutics of. Skutsch.....	997
retroflexions of the, the value of hysterorrhaphy in the treatment of. Lee.....	1249
rupture of the, at first confinement; subsequent pregnancy and delivery by version. McLean.....	401
rupture of the, spontaneous. Green.....	1051
rupture of the, the treatment of the. Leopold.....	1106
superinvolution of the, following trachelorrhaphy. Hardon.....	1009

## V.

Vagina, absence of the, a case of congenital, with retention of menstrual fluid. McMurray .....	239
foreign body from the. Grandin .....	1272
sarcoma of the, in childhood. Schuchardt .....	1108
Vaginal hysterectomy, a case of. Byford .....	427
hysterectomy for procidentia with epithelioma of the cervix uteri and vagina. Taylor .....	1185
hysterectomy for sarcoma uteri, a case of. Dudley .....	424
hysterectomy; recovery. Hunter .....	609
hysterectomy; report of three cases. Etheridge .....	81
hysterectomy, see also Hysterectomy	
hysterectomy, the pressure forceps versus the suture and the ligature in. Dudley .....	1048
section, removal of the uterine appendages and small ovarian tumors by, with a report of twelve successful cases. Byford .....	337
section, the uterine appendages removed from two cases by. Byford .....	872
tampon encrusted with a complete shell of lime salts; removal of, twenty-nine years after its insertion. Beck-with .....	13
Van De Warker. The dangers of galvano-puncture in pelvic tumors .....	1053
Vander Veer. The relation of the abdominal surgeon to the obstetrician and gynecologist .....	1078
Variation in infancy, the indications of. Raudnitz .....	1117
Veit. The subscription for a bust of Prof. Carl Schroeder .....	841
Velamentous insertion of funis. Bluett .....	437
Version and extraction in contracted pelvis, snaring the arm in utero during. Schatz .....	1004
followed by immediate extraction, the question of. Dohrn .....	336
Versions and flexions, uterine, notes on. Jacobi .....	225
Vertex presentations, the mechanism of labor in, contributions to. Sutugin .....	1119
Vesical calculus formed around a silk-worm gut suture, inserted into the vesico-vaginal septum. Frank .....	1290
calculus, large, in a young girl—operation. Reamy .....	1206
calculus with a cotton nucleus. Sims .....	843
Vesico-uterine fistula, a new operation for the cure of. Champneys .....	1219
Vestibule, fibroid tumor of the. Taylor .....	434
Viburnum prunifolium, the extract of, in the pains of pregnancy. Schatz .....	1002
Vilderman. Diagnostic signs of triple pregnancy .....	1229
Villa. Comparative therapeutics of uterine fibroids .....	557
Vomiting in pregnancy, severe. Hewitt .....	1051
pernicious, of pregnancy, note on the occasional relation of endometritis gravidarum to the. Jaggard .....	466
Vulvo-vaginitis in childhood, the etiology of. Pott .....	1109

## W.

Warder. Ovarian fibroma .....	323
Warren. Accidental hemorrhage in labor .....	1020
Wasting, see Anemia	
Wathen. The surgical treatment for lacerations of the perineum and the pelvic floor .....	1080
Wehmer. A contribution to the subject of myomotomy and of castration for fibromata .....	335

	PAGE
Wells. A unique monstrosity .....	1265
Second ovariectomy on the same patient .....	1039
The etiological relation of cervical laceration to uterine disease .....	257
Wenning. Enormous sarcoma implicating both ovaries and one tube in a young girl.....	1214
Two cases of ovariectomy; recovery.....	544
Werner. Electricity in the treatment of fibroids of the uterus.....	384
Werth. The origin of psychoses following operations upon the female genital apparatus.....	993
White. A case of icterus infantum from congenital deficiency of the ductus communis choledochus.....	48
Whooping cough, the pathogeny and therapy of. Sonnenberger, .....	442
Wiedow. On the connection between albuminuria and disease of the placenta.....	223, 1118
Relaxation of the peritoneum ..	1114
Williams. A case of extra-uterine pregnancy in which abdominal section was performed during the life of the fetus at the thirty-fifth week of gestation.....	325
Winckel. How to expedite the delivery of the after-coming head, .....	991
Winter. Croup.....	904, 970
Median frozen sections.....	1115
The micro-organisms in the genital canal of the healthy woman.....	781
Wyder. Craniotomy or Cesarean section.....	221
Perforation, the induction of premature labor, and the Cesarean section in case of contracted pelvis.....	779

## Z.

Ziegenspeck. Cysts of the hymen in the new-born.....	781
Zinke. Gastro-elytrotomy and the Porro operation vs. the Saenger method of performing Cesarean section.....	673
Twin pregnancy—abortion at two different periods of gestation—causes: vomiting in the one, placenta previa in the other.....	657
Zinnstag. A case of conception with occluded hymen.....	1120
Zweifel. Perineoplasty.....	1005
Six additional cases of Cesarean section after Sanger's method.....	447
Treatment of the pedicle in myomotomy.....	995











RG  
1  
A57  
v.21

The American journal of  
obstetrics and diseases  
of women and children

Biological  
& Medical  
Serials

PLEASE DO NOT REMOVE  
CARDS OR SLIPS FROM THIS POCKET

---

UNIVERSITY OF TORONTO LIBRARY

---

**STORAGE**

